Cleanup Action Report

Winlock Wood Products Site Winlock, Washington

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Prepared for

Winlock Wood Products, Inc. Winlock, Washington

Prepared by



LANDAU ASSOCIATES, INC.



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INTRODUCTION AND BACKGROUND

This cleanup action report describes removal, treatment, and disposal operations conducted during fall 1996 at the Winlock Wood Products site in Winlock, Washington (see Figure 1). This work followed initial remedial efforts conducted in fall 1995. The U.S. Environmental Protection Agency (EPA) provided regulatory oversight during both the fall 1995 and fall 1996 cleanup efforts. The information contained herein, in conjunction with previous characterization studies and interim action reports, records the successful removal of hazardous and potentially hazardous wastes from the site.

The following documents contain background information, analytical chemistry data, and descriptions of activities performed prior to the 1996 cleanup work, and are incorporated by reference in this report:

- Shakertown Cedar Panels Site, Phase I Environmental Site Assessment. Landau Associates, Inc. (1994).
- Final Trip Report, Winlock Dump Site Assessment. Ecology and Environment, Inc. (1994)
- Final Work Plan, Expanded Investigation, Embankment and Former Impoundments, Winlock Wood Products Site, Winlock Washington. Landau Associates, Inc. (1995a).
- Cleanup Action Plan, Winlock Wood Products, Inc. Site, Winlock, Washington. Landau Associates, Inc. (1995b).
- Cleanup Action Plan Addendum, Impoundments and Embankment Fill Areas, Winlock Wood Products, Inc. Site, Winlock, Washington. Landau Associates, Inc. (1996a).
- Quality Assurance/Quality Control Plan, Stabilization of Lead Contaminated Soil, Winlock Wood Products Site, Winlock, Washington. Landau Associates, Inc. (1996b).
- Interim Remedial Action and Data Report, Winlock Wood Products, Inc. Winlock, Washington. Landau Associates, Inc. (1996c).

Remedial actions undertaken at the Winlock Wood Products site (also known as Shakertown Cedar Panels) in September and October 1995 consisted of removing and disposing of metals-contaminated material (at a hazardous waste landfill); removing and disposing of linseed oil resin with minor debris (at a solid waste landfill); and removing and stockpiling total petroleum hydrocarbon (TPH)-affected soil for onsite biological treatment, as described in the Cleanup Action Plan (CAP, 1995b) developed by Landau Associates for the project.

Excavations in the various designated cleanup areas in fall 1995 revealed that the volume of waste was larger than had been initially anticipated. Accordingly, cleanup activities were eventually suspended because

of deteriorating weather conditions, to prevent adverse impacts to fisheries habitat (Olequa Creek), and to reevaluate cleanup options. At the time work was suspended, removals from two cleanup areas, the Culvert Fill (CF) and the North Embankment (NE) Fill had not been completed. Removals from the remaining five designated cleanup areas (North Impoundment, South Impoundment, South Waste Area, the 6/8A Fill, and the South Embankment Fill) were completed in 1995. Those areas were restored and required no further action.

In addition to the two cleanup areas remaining to be completed, five stockpiles of excavated material were left onsite over the 1995/96 winter shutdown. The materials in these stockpiles consisted of: 1) hazardous waste generated during the 1995 cleanup; 2) TPH-affected soil; 3) undesignated material excavated from the bank above the North Impoundment cleanup area; and 4) two piles of solidified glue blocks, drums, and large, mostly metal, debris. The stockpile locations and approximate areas requiring further remedial efforts at the end of field activities in 1995 are shown on Figure 2.

A scope of services for the second phase of the cleanup action work is described in our May 1996 proposal letter to Winlock Wood Products, Inc. Services under the current scope that have been accomplished since the interim remedial work completed in 1995 consist of:

- Completing a report on the interim remedial action effort
- Conducting a lead treatability study on samples of the hazardous material stockpile
- Preparing an addendum to the Cleanup Action Plan describing activities to be completed in 1996
- Overseeing the 1996 removal of wastes and affected soil from the cleanup action areas and monitoring the contractor's work for compliance with the CAP
- Collecting confirmation samples to verify removal of affected material to below cleanup action levels
- Conducting quantitative chemistry analyses on collected samples
- Measuring water levels in the three groundwater monitoring wells installed for this project
- Collecting a third set of water samples from the groundwater monitoring wells
- Compiling and interpreting the data
- Preparing this report.

Hazardous waste generated during the 1995 cleanup was sent directly to a permitted landfill for treatment/disposal. However, because of the high cost of disposing of this material at a hazardous waste landfill, the feasibility of treating the material on-site to render it nonhazardous was investigated by Landau

Associates. Our investigation determined that: 1) the primary reason the material classified as hazardous waste was that amount of lead that leached from some of the tested material exceeded the Toxicity Characteristic Leaching Procedure (TCLP) test criterium of 5 mg/L; 2) addition of an amendment, such as Portland cement, was successful in lowering the leachability of the lead to below the 5 mg/L criterium, and; 3) treated material could be disposed of at a facility meeting the minimal functional standards for municipal solid waste.

Landau Associates also evaluated material excavated from above the North Impoundment, (and stored in the Undesignated Stockpile), and the NE Fill as part of our reanalysis of treatment/disposal options. A review of analytical chemistry data from samples collected from materials in these areas, including samples from the Undesignated Stockpile, indicated that the average lead value was below the site cleanup level, after screening out data from samples collected in material that had already been removed from the site and managed as a hazardous waste.

Drums and large blocks of solidified glue encountered during removals in Fall 1995 were segregated from soil and other wastes and placed on plastic sheeting in two stockpiles along with other large, mostly metal debris, with the intent of disposing of them as solid waste. A quantitative chemical analysis of a composite sample of glue indicated it contained formaldehyde above the carcinogenicity criterion of 333 mg/kg. However, because of its solidified nature, the disposal facility stated that the glue could be disposed of at their facility if the Washington State Department of Ecology (Ecology) agreed that the material posed minimal risk. Disposal of the solidified glue was therefore postponed pending concurrence by Ecology on this determination.

While trying to resolve this matter, the carcinogenicity issue became mute, as the formaldehyde criterion was deleted from the amended Washington State Dangerous Waste regulations, (effective November 20, 1995). Procedures for determining whether a waste is a solid waste, dangerous waste, or an extremely hazardous waste are contained in these amended regulations, along with criteria for excluding certain dangerous wastes from the full management requirements. This special waste exclusion allows for disposal of certain materials in a landfill meeting the minimal functional standards for solid waste landfills.

In 1996, four more samples of the glue were collected and chemically analyzed to provide additional analytical data. Following the procedures in the state dangerous waste regulations, and using the highest concentration for each regulated constituent detected in the glue samples, an "equivalent concentration" for the solidified glue was determined. The evaluation showed that the equivalent concentration of detected constituents was below the threshold to designate the material as a dangerous waste and that the solidified glue could be handled and safely disposed of as a solid waste.

An addendum to the CAP (1996a) was prepared by Landau Associates describing the proposed changes to planned remediation efforts. Major tasks in the CAP and addendum identified to complete the cleanup action consisted of continuing to remove hazardous materials from the CF area and possibly from the

north Embankment Fill area; treating metals-contaminated material with a stabilizing agent to render it nonhazardous; hauling and disposing of treated material, solidified glue, and other debris; onsite treatment of TPH-affected soil; and site restoration. The primary revision to the original CAP was that metals-containing soil would be treated onsite by the cleanup contractor instead of by the disposal facility operator.

An additional task to the CAP was the temporary diversion of Olequa Creek in the vicinity of the Culvert Fill. The diversion was needed to protect water quality, because excavation of the steep bank above the creek was likely to cause some potentially contaminated soil to fall into the creek. The last significant revision to the CAP was that the NE fill and overlying Undesignated Stockpile were reclassified as solid waste and therefore, could be left onsite with only regrading of the stockpile required.

The CAP addendum was sent to the EPA for review and comment. The EPA was in general concurrence with the work items described in the addendum, except for the reclassification of the Undesignated Stockpile and NE fill as solid waste. Winlock Wood Products agreed to conduct additional testing of these materials during the cleanup work to determine if existing data was truly representative of overall conditions or if additional treatment/disposal was required.

1996 CLEANUP ACTION

CEcon Corporation (CEcon) of Tacoma, Washington was the remediation contractor for the initial removal work completed in 1995, and continued in this role for the work performed in 1996. Site preparatory activities consisted of clearing and removing surplus equipment and materials, constructing storage bins for treated material, setting up a screening operation, and diverting Olequa Creek.

The diversion of Olequa Creek was performed in substantial conformance with the method outlined in the CAP addendum. The basic tasks associated with this work consisted of: 1) constructing a temporary road down the embankment slope to provide access for equipment, 2) moving a tracked excavator across Olequa Creek, 3) excavating the diversion channel, 4) shifting the stream flow into the channel with a dike constructed of sandbags, and 5) transporting fish trapped within the isolation area downstream of the diversion. A second sandbag dike was initially constructed across the channel near the downstream end of the diversion to prevent backflow into the isolation area, but it was breached after observing that it was not needed and impeded the small flow of water leaking through the upstream dike. A silt fence was placed across the isolated portion of the channel to collect any buoyant debris that fell into the water.

One change to the diversion plan was the elimination of the gravel bench at the toe of the slope. The two main factors supporting this decision were that a substantial section of the creek bank below the area to be excavated had previously failed and slumped down, creating a moderate slope to catch soil and debris.

Secondly, material excavated from the diversion trench (which was slated for building the bench) contained more silt and fine sand than had been anticipated. Placing this material into the water would have created excessive turbidity. A third factor was that, after reviewing the site constraints, the excavator operator was confident that he could remove the overburden and contaminated material from the top of the bank with only minimal spillage. Building the bench with imported gravel from a nearby quarry remained a viable option if turbid conditions were created during the excavation work.

Following site preparation activities and diversion of Olequa Creek, the contractor then began excavating and treating potentially hazardous materials. The treatment was performed as described in the Quality Assurance/Quality Control Plan (1996b). Type I-II Portland cement, applied at a rate of 3 percent by dry weight, was selected as the stabilizing agent. The contractor had the cement delivered in standard 90-lb bags, which made it easy to determine the proper amount of cement to be added to each batch of excavated material.

To mix the cement with the waste material, CEcon elected to use a modified compost turner called a Turborator. The essential components of the Turborator consist of a hydraulically adjustable steel frame mounted on four wheels that supports a counter-rotating drum equipped with paddles. The mixing area of the Turborator is enclosed with thick rubber panels that contain the material as it is being mixed. The waste material is first shaped into a windrow with a maximum base width of about 12 ft and a height of about 6 ft. The windrow can be of any length, subject to site or other production constraints. At this site, the typical windrow length was about 180 ft. The counter-rotating drum lifts up the material, aerating and mixing it, and then deposits the blended material behind the machine as it moves down the windrow. Typically, two passes through each windrow were made to assure adequate mixing.

The approximate dry weight of each batch of waste material was determined by Landau Associates. The procedure consisted of measuring the length, average base width, and average height of the windrow to calculate the windrow volume and measuring the dry density of the material with a nuclear moisture-density gauge. Multiplying the volume by the unit dry density yields the mass of the windrow. Individual width and height measurements were taken at 40-50 ft intervals along the length of the windrow (typically four measurements) and averaged upward to the nearest 0.5 ft. Two moisture-density readings, one on each side of the windrow, were taken with the nuclear gauge at the same locations as the width and height measurements for a total of eight measurements. The windrow surface was prepared for each reading by scraping off the loose surficial soil and using the weight of the gauge to perform some light compaction. To assure an adequate amount of cement and to compensate for heterogeneities in the windrow, the unit density of the waste used to calculate the total dry mass in the windrow was based on the calculated mean unit density plus two standard deviations (calculated from the eight individual measurements).

The waste material had sufficient moisture so that fugitive dust emissions from the waste were not a concern. However, clouds of dry cement dust were released as each bag was encountered and shredded by the paddles on the Turborator. Fugitive cement dust was controlled and knocked down using water spray from a 1-inch diameter fire hose operated by a laborer following behind the Turborator. When windy conditions developed in late afternoons during a warm, dry period, mixing of the windrows was postponed until early morning to take advantage of calmer conditions. Changing the positions of the cement bags within the windrow (typically placed in the center) was tried but had no apparent affect on the amount of dust released.

Although the Turborator worked very well for most of the material, some of it could not be mixed using the Turborator. One situation was due to the needed clearance between the pavement surface and the paddles on the Turborator drum which resulted in a 4-6 inch thick layer of soil at the bottom of each windrow that could not be thoroughly mixed. To address this problem, the 4-6 inch layer was mixed into and incorporated into the treated material when the windrow was picked up and transported to the storage bins, and again when it was loaded into the hauling containers. To document that the overall treatment was still effective, and to account for this reduced mixing effort, a representative portion of this 4-6 inch layer was collected and incorporated into the confirmation sample for each windrow. The upper bound of the volume in this layer was calculated to be 20 percent of the total windrow volume, therefore one in every five spoonfuls for the composite sample was obtained from this layer.

The other material that could not be mixed with the Turborator consisted of cobbles and large pieces of debris. Past experience with the Turborator showed that large objects left in the material would cause wear and tear on the paddles, usually resulting in significant down time for maintenance and repairs, and presenting an increased safety hazard as objects could be ejected from the mixing area when struck with the paddles. To address this problem, CEcon set up a vibratory screen to segregate all items larger than about 4 inches in diameter from the waste material to be mixed with the Turborator. Oversize material was moved to a temporary stockpile area located on the east side of the turnaround loop road (Figure 2).

The waste material also contained large clods of overly wet and partially-cemented soil that didn't always break up and fall through the screen, even after multiple attempts. This material was also handled as oversize. However, since this material may have been contaminated, a decision was made to treat the oversize before disposal. To treat it, the volumes of oversize piles were measured and the unit weight of soil and soil-like material was estimated based on the cumulative average unit weight of the windrows from which the material was obtained. To adjust for the high amounts of debris and cobbles, a sample of each oversize pile was segregated into soil-like material and nonsoil-like oversize objects (cobbles, solidified glue, woody pieces, larger pieces of scrap metal, etc.) and the two subsamples were weighed. The results of this test indicated that soil and soil-like material made up about 36 percent of the piles and the remaining 64 percent was relatively

clean oversize pieces. The amount of cement added was adjusted based on this ratio. The excavator was used to mix the cement into the pile using a scoop and dump technique. Because the effectiveness of this method can vary, three passes through each pile were made to adequately distribute and mix the cement. Adequacy of the mixing was verified with visual observations and confirmation testing.

One confirmation sample was collected from each treated windrow of waste material and analyzed for total and TCLP lead. Results are summarized in Table A-1, Appendix A. Total lead values ranged from 380 to 8400 mg/kg and TCLP lead values ranged from not detected at the analytical detection limit of 0.05 mg/L to 3.7 mg/L. No correlation between total lead and TCLP lead values was discernible.

Treated windrows were placed in storage bins constructed of concrete "Ecology" blocks pending results of the confirmation testing. Once the analytical results had been returned, the treated soil was loaded into 20 or 40 cy³ trash containers and trucked to Centralia where the containers were weighed and then transferred onto rail cars. The containers were then shipped to Regional Disposal's municipal solid waste landfill located in Roosevelt, Washington for disposal. Solidified glue, other debris, and oversize material were handled similarly. Two hundred eighty-seven loads of waste material with a net weight of 8,005.51 tons, were removed from the site in 1996. A total of 1,469.81 tons of solid and hazardous waste were removed from the site during the 1995 effort.

Figures 2, 3, and 4 in this report should be referred to for the locations from which samples discussed in the following sections were collected. A brief data validation section, along with summaries of the laboratory data, and copies of the analytical reports provided by the laboratories are included in Appendix A.

CULVERT FILL

Excavations in the CF area began once Olequa Creek had been diverted and treatment of the preexisting hazardous waste stockpile was under way. Generally, the excavator worked from south to north, first excavating the clean overburden down to just above the suspect layer, then removing the lead-containing layer, and finally a third trip through to remove any TPH-affected soil. Material was excavated in swaths about 20 to 40 ft wide, beginning along the creek and working eastward until the suspect material had been removed. Initially, excavated overburden was placed over the bank due to limited room for storing this material. Once sufficient room was available within the CF area, and confirmation testing showed that the lead-containing wastes and TPH-affected soil had been removed, the excavated overburden was stockpiled directly in the southwest quadrant of the CF area for later reuse as backfill.

The CF was a heterogeneous fill consisting of ash, soil, wood and bark chips, metal and other debris. The hazardous material in the CF had a characteristic light purplish-red coloration with isolated chunks of paint pigment. In contrast to most of the other cleanup areas at the site, the lead-containing layer varied

significantly in consistency, thickness, and depth. As the excavation progressed, it became apparent that at the time the material had originally been dumped, a bulldozer or similar equipment had been used to move the material around. These actions had the effect of mixing a large amount of soil into the waste, increasing the volume to be removed and treated.

Because of these variations in the material, and because total lead values in the treated materials were lower than expected, excavations were temporarily halted and samples of suspect material (samples CF-W4 through CF-W7) were obtained from the then-current east wall of the excavation to determine the in situ lead concentrations. Results showed lead levels substantially above the cleanup level and excavation resumed. After the next swath of material had been removed, it appeared that the amount of paint waste in the suspect layer had diminished significantly and another wall sample was collected (CF-W8). This sample showed lead at 870 mg/kg, which was below the cleanup level. However, after another bucket width of material had been removed, four additional samples collected in the same general area all showed lead again above the cleanup level and the excavation continued eastward. The final boundary of the CF excavation is shown on Figures 2 and 3.

Confirmation sampling for total lead followed removal of the suspect layer in each swath. Sampling frequency was higher than outlined in the CAP due to the high variability of the suspect layer. Also, at some locations, two sampling events were needed because the first event occurred when the EPA could not be present but data were needed to continue with the excavation work. However, no completed lead removal areas were covered up until the EPA had an opportunity to inspect the area and collect splits of confirmation samples.

Confirmation sample data are presented in Appendix A. Total lead values of samples collected from the final excavation limits ranged from 12 to 630 mg/kg, except for sample CF-C36 which had a total lead value of 3,200 mg/kg. This discrete sample was collected from a 6-8 inch layer of waste material that was still present in the sidewall of the excavation. The EPA determined that this material posed little risk to human health and the environment and allowed this material to remain in place after considering: 1) the distance to the wetland area; 2) the lack of significant groundwater flow; 3) the effective cap provided by the asphalt pavement; and 4) the dangers and difficulties inherent in supporting (or partially demolishing) the adjacent storage building. However, as a condition for allowing this material to remain, EPA may request that a deed restriction be added to the title for this portion of the property to serve as notice that any future earthwork in the immediate vicinity could encounter potentially hazardous material.

Petroleum hydrocarbon-like odors and sheens were observed in the soil below the lead-containing waste layers in some locations within the CF. TPH-affected soil was characterized by a slight to moderate odor and a dark gray to black color. The visual and olfactory signs indicated that the amount of TPH in the soil

varied substantially across the CF area. TPH-affected soil underlying the lead-containing layer was removed and transported to a stockpile for placement into a new biological treatment cell (Cell No. 2, Figure 4). The soil underlying the affected zone was a light gray becoming light brown to orange-brown with depth.

Composite samples analyzed for TPH in the gasoline and diesel hydrocarbon ranges were collected from the bottom of the CF excavation after the affected soil had been removed. Laboratory results show that diesel range petroleum hydrocarbons varied from not detected at the analytical detection limit (15-20 mg/kg) to 90 mg/kg. Gasoline range petroleum hydrocarbons in these confirmation samples varied from 18 to 250 mg/kg. A gasoline-range "hot spot" was delineated from within the sample collection area of sample CF-C27 (laboratory value of 250 mg/kg) using visual observations and scans with the PID. The hot spot was overexcavated until PID readings and visual observations indicated that the affected soil had been removed. Due to the relatively low initial sample result an additional confirmation sample was not collected and analyzed.

UNDESIGNATED STOCKPILE

Four composite samples (UW-4, UW-5, UW-6, and UW-7) were collected and analyzed to determine if the material in the Undesignated Stockpile should be classified as a solid waste material. Composite sampling was chosen as being more representative of overall conditions since the Undesignated Stockpile originated from various sources. The excavator was used to excavate four test pits through the stockpile down to the previous surface grade (top of the NE fill). The test pits were located to divide the stockpile into four roughly equal portions, based on visual estimates. Material excavated from the test pits was placed into separate stockpiles and then mixed using the excavator bucket. At each pile, smaller portions were split out with a hand shovel, and the material was further homogenized with the shovel. From the remixed material, a composite sample was created by collecting spoonfuls of material into an aluminum pie pan, remixing the material a third time before placing the sample into the sample jar.

The four samples were analyzed for lead, and sample UW-4, which had hydrocarbon-like odors, was also analyzed for TPH in the gasoline and diesel ranges. Results of the analyses showed that the four samples contained lead ranging from 150 to 640 mg/kg, which is below the 1,000 mg/kg cleanup standard established for the site. Sample UW-4 showed TPH concentrations in the diesel range at 65 mg/kg, and in the gasoline range at 460 mg/kg.

The Undesignated Stockpile was regraded following receipt of the analytical test data, and acknowledgment from EPA, to gain access to the NE fill. A substantial portion of the material was used as fill on the slope just south of the stockpile location (the slope above the former North Waste Pond) to cover over the exposed bedrock and lessen the steepness of the slope. The rest of the Undesignated Stockpile was

leveled and contoured to blend in with the surrounding topography. Material with petroleum hydrocarbon-like odors was segregated and stockpiled for mixing into BiologicalTreatment Cell No. 1 material at a later date.

NORTH EMBANKMENT FILL

Five composite samples (NE-TP2, NE-TP3, NE-TP4, NE-TP5, and NE-TP6) were collected and analyzed to determine if the material in the NE fill should be classified as a solid waste. Composite sampling rather than discrete sampling was chosen as being more representative of overall conditions, since a significant layer of lead-containing soil or waste with distinguishing characteristics (that could be segregated from surrounding soil during removal) had not been previously identified. The EPA generally agreed with this approach, but requested a discrete sample be collected from any suspicious layer that appeared to present across a significant section of the NE fill area.

The excavator was used to excavate five test pits through the North Embankment Fill down to near the native bedrock surface. Test pits were located to divide the fill area into five roughly equal portions, based on visual estimates. The composite samples were collected from the NE fill using the same procedures described above for the Undesignated Stockpile. A discrete sample (NE-TP6D1) was collected from a bright orange-red layer of ashy soil present at varying depths, and in varying thicknesses, in the southern portion of the NE fill area.

The six samples were analyzed to quantify the amount of total lead. The five composite samples contained lead ranging from 340 to 830 mg/kg. The amount of lead in the one discrete sample was 720 mg/kg. These values were below the 1,000 mg/kg site cleanup standard and demonstrated that the NE fill could be left onsite. The analytical results were communicated to the EPA for their review, and following their concurrence, the test pits were backfilled and the NE fill area was regraded to allow for soil in Biological Treatment Cell No. 1 to be spread out to a uniform thickness.

BIOLOGICALTREATMENT CELLS NO. 1 AND NO. 2

The TPH-affected material generated during the removal efforts in 1995 had been stored in a covered stockpile on the upland terrace over the winter shutdown. The 1995 stockpile was located at the proposed site of Biological Treatment Cell No. 1 (as shown on Figure 2). Once the disposition of the Undesignated Stockpile and NE fill area was known, and following regrading in that area, space was available to spread the TPH-affected material out in a thin layer. This was needed to aerate and remix the material which would enhance the biological treatment and to help dry it out. The front-end loader and excavator were used to excavate and spread the material. Undesignated Stockpile material with hydrocarbon-like odors was mixed in with Treatment Cell No. 1 material at this time.

During this work it was noted that the Treatment Cell No. 1 material had only slight hydrocarbon-like odors, and no sheens or stains were visible. Air monitoring data with the photoionization detector (PID) also indicated relatively low concentrations of volatile organic compounds. Two composite samples, LF-C1 and LF-C2, from the north and south halves of Treatment Cell No. 1, respectively, were collected and analyzed for TPH in the gasoline and diesel ranges. Gasoline range hydrocarbons were detected at 60 mg/kg in LF-C1 and 35 mg/kg in LF-C2. Diesel range hydrocarbons were not detected in LF-C1 at the analytical detection limit of 22 mg/kg and at a concentration of 53 mg/kg in LF-C2. The results of these analyses showed that passive biodegradation was successful in reducing the TPH concentrations to below the MTCA cleanup levels of 100 mg/kg for gasoline and 200 mg/kg for diesel, and that no further treatment was needed. An attempt was made to do some fine grading and recontouring of this material to improve its appearance but the material was too wet to properly handle. The site owner accepted this area in its then-current condition, with the intent of regrading it in the future when the soil drained.

Additional TPH-affected soil encountered in the CF area during the removal work accomplished in 1996 was removed and transported to a temporary stockpile until other cleanup efforts had been completed and sufficient space was available to spread out the material for treatment. This material was then placed within the turnaround loop in an area formerly occupied by the hazardous waste stockpile generated during the 1995 removal work. The area where this material was spread is identified as Biological Treatment Cell No. 2 on Figure 4. Once other efforts were substantially completed, the new stockpile of TPH-affected material was spread out in a layer about 2-3 ft thick for passive biological treatment.

Two composite samples (LF-C3 and LF-C4) were collected from the north and south halves of the material in Biological Treatment Cell No. 2 in October 1996 to establish baseline conditions. The samples were analyzed for TPH in the gasoline and diesel ranges. Results showed diesel-range hydrocarbon concentrations at 22 and 26 mg/kg and gasoline-range hydrocarbons at 940 and 950 mg/kg. Two additional samples (LF-C5 and LF-C6) were collected and analyzed for gasoline-range hydrocarbons during the December 1996 groundwater sampling event. Gasoline-range hydrocarbons were detected at 1480 and 1640 mg/kg in these two samples. Since concentration of gasoline range compounds were still above MTCA levels, the treatment cell material will be checked in conjunction with future groundwater sampling events.

SITE RESTORATION

Site restoration was performed essentially as described in the CAP. Disturbed areas were graded and contoured to reduce potential erosion and to return the areas to a more natural condition. The two culverts encountered in the CF area were extended with plastic pipe sections so that their discharge points were beyond

the toe of the new fill slope. The lowland portion of the CF was graded to direct surface water runoff toward the discharge point of the culverts and away from Olequa Creek.

The two culverts from the CF area currently discharge into a small pond, and the outflow from the pond runs northward into the former South Impoundment area, as shown on Figures 2 through 5. The former South Impoundment functions as a sedimentation basin for runoff from the CF and most of the embankment slope. In addition to sediment removal, other reasons for directing culvert flow into the former South Impoundment area, rather than straight into Olequa Creek, are to 1) provide more water for the wetland area, thereby enhancing its quality, and 2) provide an opportunity to capture and contain any accidental release or spill which might enter the plant's stormwater system. An overflow channel was constructed in 1995 by lowering a section of the former South Impoundment perimeter berm near its northwest corner. An overflow channel at this point creates the longest discharge route to Olequa Creek and provides the largest area for energy dissipation, filtration, and sediment removal.

Overburden removed from the CF, along with some of the embankment material north of the CF, was excavated and moved back into the CF area to fill in as much of the excavated upland area as possible. Fill material was moved using a bulldozer, excavator, front-end loaders, and dump trucks. The material was then "drifted" into place and compacted with the bulldozer. A WSDOT-approved erosion control grass seed mix was applied during the last week in October 1996 using hydro seeding techniques. A wetlands mix was not used since virtually all of the activities occurred outside delineated wetland areas and mostly on the upland terrace.

Olequa Creek was restored as best as practical with the equipment and materials on hand. The first step was to remove overburden soil from the channel that had run down the bank into the creek. This work was performed in conjunction with regrading of the CF area, after all other earthmoving activities immediately adjacent to the creek had been completed. The excavator was then moved across Olequa Creek and the two diversion dikes were removed, allowing water to flow in the natural channel. The diversion channel was then backfilled and the area regraded with the excavator. A row of sand bags was left across the upstream face of the backfilled area to reduce erosion potential. Finally, grass seed was spread by hand over the disturbed areas on the west side of Olequa Creek.

Some of the bank above the former North Impoundment was filled and regraded with material from the Undesignated Stockpile to reduce the steepness of the slope, provide a soil layer over exposed bedrock, and to cover exposed ashy soil. The bank was hydroseeded with the Erosion Control Mix.

GROUNDWATER MONITORING

Three groundwater monitoring wells were installed in May 1995 outside the impoundment areas to establish groundwater flow direction and to determine if groundwater quality had been impacted beyond the limits of the impoundments. Their locations are shown on Figures 2 and 4. Three staff gauges were also installed in Olequa Creek in May 1995 to relate water levels in the creek to groundwater levels. The staff gauges were damaged over the 1995-96 winter and have not been repaired or replaced. The latest round of groundwater level measurements and sample collections were performed on December 20, 1996, with results summarized below. Descriptions of groundwater testing and sampling procedures may be found in the Work Plan for the Expanded Investigation and in Appendix A of the Interim Remedial Action and Data Report.

WATER LEVEL MEASUREMENTS

Groundwater depths in the three monitoring wells were measured on December 20, 1996. The water level measurements were converted to elevations based on the vertical control survey accomplished for this project. The elevations are based on a temporary bench mark which was assigned an arbitrary elevation of 100.00 ft.

Groundwater surface elevation contours for groundwater elevations measured on December 20, 1996 are shown on Figure 5. The maximum observed difference in groundwater elevation across the site for this date was 2.67 ft between monitoring wells MW-1 and MW-3, which are approximately 410 ft apart. As can be seen from the figure, the inferred direction of groundwater migration in the uppermost water-bearing zone is to the southwest and south, toward Olequa Creek. This groundwater migration direction is consistent with results obtained in May, June, and September 1995.

GROUNDWATER QUALITY SAMPLING

Two sets of groundwater samples were collected in May and September 1995 as part of the site characterization phase of the project. The scheduling of the sampling events was based on obtaining groundwater samples when the groundwater levels were anticipated to be high (May) and low (September). Data from these two sampling efforts have been previously submitted, but are included in this report for completeness. Results from the two 1995 events showed some inconsistencies in the concentrations of some constituents. Consequently, additional groundwater quality sampling and testing was performed in 1996 and 1997. Groundwater quality data for all events to date are presented in Table A-2 in Appendix A; laboratory reports are also included in Appendix A.

The third set of water quality samples were collected on December 20, 1996, about two months following completion of the final remedial action work. Monitoring wells were purged and sampled after obtaining water level measurements. Samples were collected using a peristaltic pump and dedicated tubing discharging directly into bottles prepared and supplied by the analytical chemistry laboratory. Samples collected for total metals analyses were filtered in the field to remove suspended solids. The samples were analyzed for priority pollutant metals and diesel range petroleum hydrocarbons. All compounds analyzed for were not detected at the laboratory detection limits except for chromium, copper, lead, and zinc, at 11.5, 32.0, 10.5, and $26.5 \,\mu g/l$, respectively in sample MW-2, and zinc at $32.6 \,\mu g/l$ in sample MW-3. Arsenic, which had been detected in all three samples collected in September 1996, and TPH, which had been detected in sample MW-3 from the same sampling event, were not detected at the analytical detection limits in the December 1996 samples.

The latest set of groundwater quality samples were collected on August 19, 1997. Sampling and testing protocols were the same as for the December 1996 event. At well MW-1 all compounds were undetected at the stated detection limits. At wells MW-2 and MW-3 all compounds were undetected except for arsenic, lead and zinc at 5.0, 7.44 and 32.0 mg/l, respectively, in sample MW-2; and lead and zinc at 3.83 and 36.2, respectively, in sample MW-3.

With the exception of lead at MW-2, all compounds are either at or below established maximum contaminant levels (MCL's). The lead concentration at well MW-2 in August 1997 was 7.44 mg/l, which is just above the 5.0 mg/l MCL (and the State's groundwater cleanup level).

SUMMARY AND CONCLUSIONS

Further remedial action efforts were undertaken in August through October 1996 for the purpose of removing, stabilizing, and disposing of contaminated material at a solid waste landfill, and removing and onsite treatment of TPH-affected soil. Based on observations and results of quantitative chemistry analyses of confirmation samples, remedial work accomplished in the fall of 1996 was successful in removing potentially hazardous materials and affected soil from the CF clean up area. Analytical chemistry data collected from the Undesignated Stockpile and the NE fill areas showed that the concentrations of lead in these materials were below the cleanup goal established for the site.

The one exception to the above is in the vicinity of sample CF-C36 (near the storage building). At this location it appears that a thin layer of lead-containing waste may extend beneath the building. The EPA has indicated it may request institutional controls (e.g.deed notification) to address this issue.

Analytical testing and visual and olfactory signs indicated that passive biodegradation and ventilation were effective in reducing the amount of TPH to below state regulatory limits established by Ecology for Biological Treatment Cell No. 1. TPH-affected material unearthed during the CF removals is currently undergoing similar treatment in Biological Treatment Cell No. 2, established inside the loop road as shown on Figure 5. The material in Cell No. 2 will be checked at the same time future groundwater samples are collected, and if observations warrant, samples will be collected and analyzed for TPH to determine if levels have dropped below regulatory limits. If no visual, odor or PID measurements indicate the presence of TPH (gasoline), the material will be considered "clean", with possible regrading as the only future activity associated with this stockpile.

Our assessment of groundwater quality regarding total metals findings (particularly lead) remains ongoing. Although the groundwater quality data collected to date does not support an assumption that the impoundment and embankment wastes have adversely impacted groundwater quality, neither can the variations in analyzed constituents be readily attributed to natural, background conditions. Accordingly, post-cleanup sampling and testing of groundwater is recommended to monitor the levels of detected metals. We recommend annual collection of groundwater samples, with analyses limited to arsenic and lead. Sampling results should be forwarded to the EPA following completion of analysis and data validation. The data will be used to determine if further action or investigation is warranted.

USE OF THIS REPORT

This report was prepared for the exclusive use of Winlock Wood Products Inc. and their agents for specific application to the Winlock Wood Products site in Winlock, Washington. Our services have been conducted in accordance with generally accepted practices of the environmental engineering profession in existence in the project area at the time of this report. The statements and conclusions contained in this report

are based on the observations, explorations, and sampling completed for this project by Landau Associates. No other warranty, express or implied, is made as to the information included in this report.

LANDAU ASSOCIATES, INC.

By:

William D. Evans, CPG

Associate

WDE/jas

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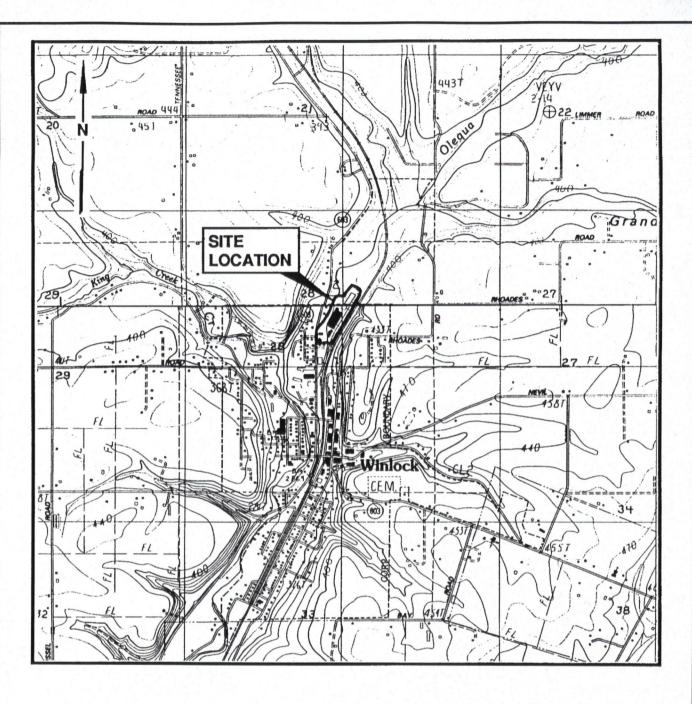
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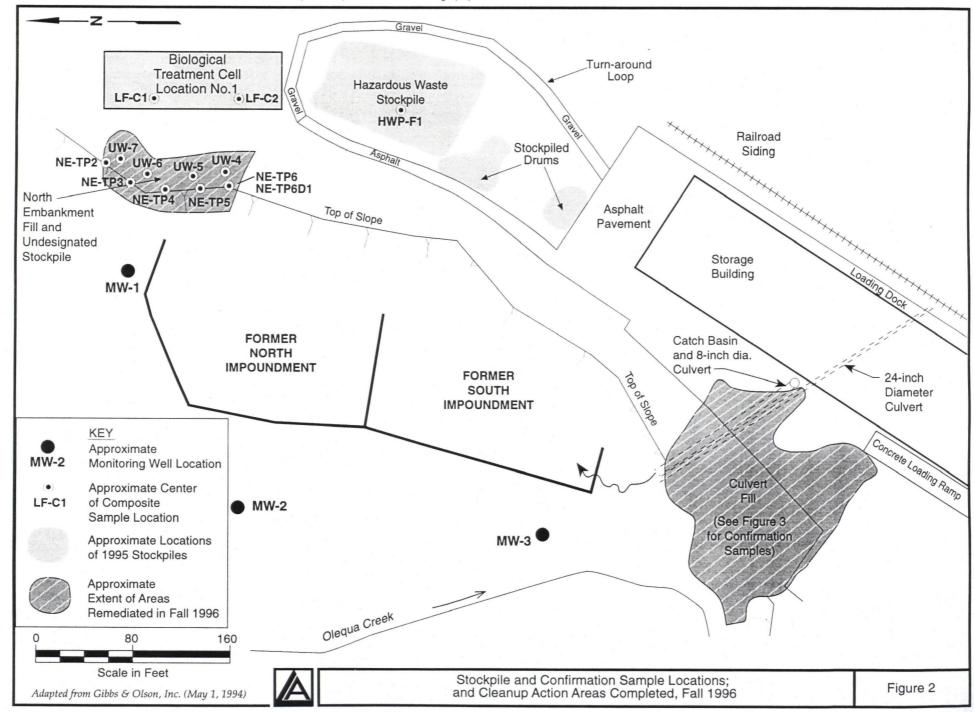
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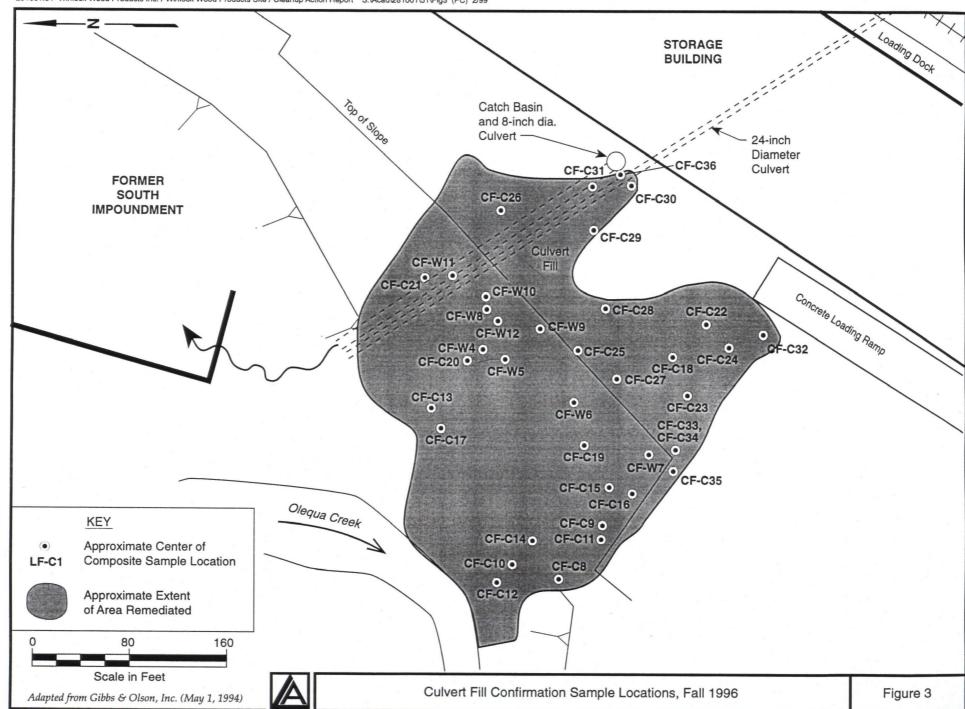
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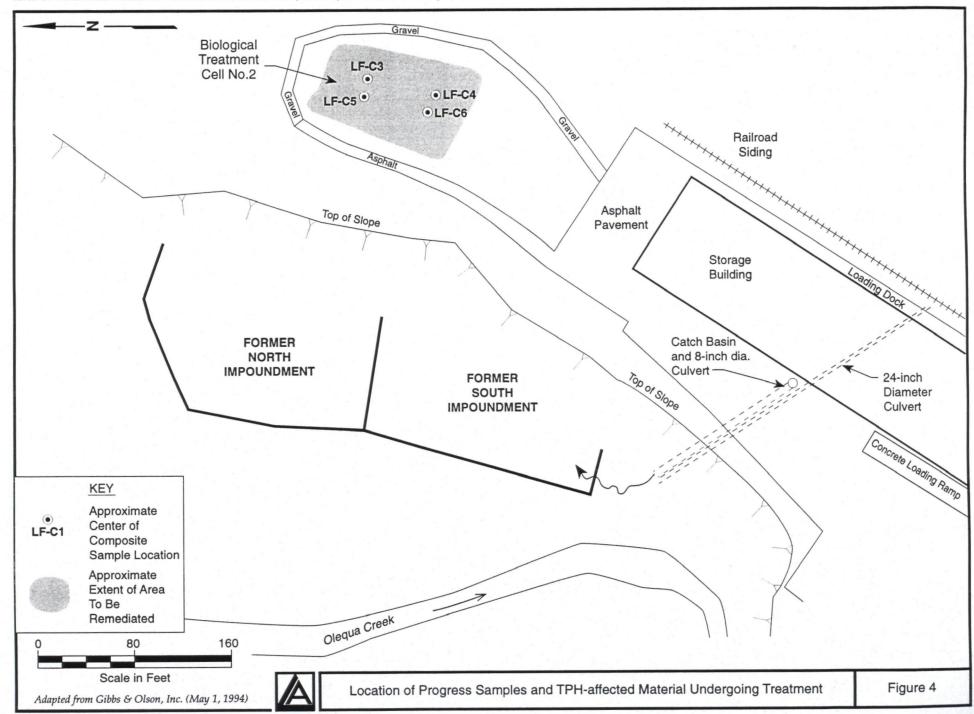
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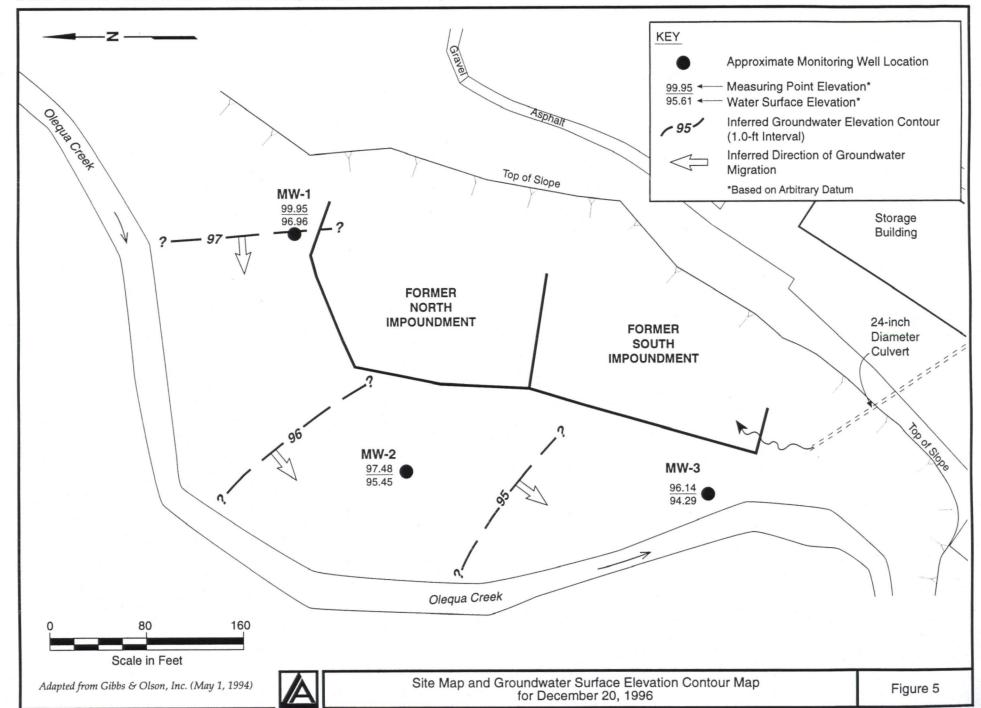












Laboratory Reports, Data Validation and Data Summary Tables

APPENDIX A SOIL/GROUNDWATER SAMPLING LABORATORY DATA

Laboratory data for 83 soil and 3 groundwater samples collected at the Winlock Wood Products site during September, October, and December 1996 are presented in this appendix. Groundwater data from 1995 is also included. The data are summarized in Tables A-1 (soil/waste material) and A-2 (groundwater), and contained within the laboratory reports. A partial data quality evaluation was performed for analyses of total and TCLP lead (EPA methods 1311 and 7420, respectively) and hydrocarbon compounds [Ecology methods WTPH-G and WTPH-D (extended), and WTPH-HCID]; the results of the data quality evaluation are presented herein. Analyses were performed by National Environmental Testing (NET) located in Portland, Oregon, and by North Creek Analytical, Inc., (NCA), located in Bothell, Washington. This data quality evaluation covers NET data packages 96.02664, 96.02702, 96.02728, 96.02747, 96.02763, 96.02782, 96.02798, 96.02818, 96.02819, 96.02834, 96.02856, 96.02898, 96.02923, 96.02940, 96.02952, 96.02970, 96.02982, 96.03011, 96.03017, 96.03046, 96.03067, 96.03084, 96.03102, 96.03115, 96.03122, 96.03139, 96.03157, 96.03180, 96.03200, 96.03220, 96.03243, 96.03266, and 96.03365; and NCA data packages B505144, B509465, B612451 and B708321.

The data quality evaluation was performed in accordance with Appendix L of the Washington State Department of Ecology's Guidance for Remediation of Release From Underground Storage Tanks (Ecology 1997) and applicable portions of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (EPA 1994a) and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (EPA 1994b).

The evaluation considered the following elements:

- · Chain-of-custody records
- Holding times
- Blank results (laboratory method and field)
- Surrogate recoveries
- Laboratory matrix spikes and matrix spike duplicates (including laboratory control samples)
- Duplicate analyses (field and laboratory)
- Conclusions and completeness.

Data validation qualifiers were added to samples based on the evaluation of data quality. The absence of a data qualifier indicates that the datum is acceptable without qualification. A "J" or "UJ" qualifier indicates that while the datum may be used in the site evaluation, the associated numerical value should be considered an approximation. An "R" qualifier indicates the datum is rejected and should not be used for site evaluation purposes. Table A-3 presents a summary of data qualifiers.

Signed chain-of-custody records accompanied each data package except NET data package 96.03365. All analyses requested were performed. Method and/or project-specified control limits were met for all samples and all analyses, except as noted below.

For WTPH-G analyses included in NCA data package B612451, surrogate recoveries for soil samples LF-C5, LF-C6, and the laboratory duplicate sample could not be accurately quantified according to NCA, due to interference from coeluting organic compounds present in the samples. No qualifiers were assigned based on lack of recovery information. Surrogate 4-bromofluorobenzene was diluted out during WTPH-G analysis of samples associated with NET data packages 96.03115 and 96.03365; however, recovery of surrogate aaa-trifluorotoluene was within method specified control limits for each of these data packages and, therefore, no qualifiers were assigned. Recovery of surrogate aaa-trifluorotoluene was not reported with samples associated with NET data package 96.02982; however, recovery of surrogate 4-bromofluorobenzene was reported and the result was within method specified control limits and, therefore, no qualifiers were assigned.

For sample TB-5 (data package 96.02763), no method blank, matrix spike, laboratory duplicate, or laboratory control sample (blank spike) was performed by NET for total lead analysis. No qualifiers were assigned based on the lack of this information, but the data user should be aware that without spike or duplicate analyses, there is no measure of accuracy or precision.

For samples TB-8 and OS-1 (NET data package 96.02818) and sample TB-9 (NET data Package 96.02819), no laboratory control sample (blank spike) was performed for TCLP lead analysis; however, matrix spike and matrix spike duplicates (MS/MSD) recoveries were within EPA control limits for inorganic data (EPA 1994b) indicating some level of accuracy. No qualifiers were assigned. For samples LF-C1 and LF-C2 (NET data package 96.03157) and samples LF-C3 and LF-C4 (NET data package 96.03365), no laboratory control sample (blank spike) was performed for WTPH-G analysis; however, surrogate recoveries were within method specified control limits and MS/MSD recoveries were within EPA control limits for organic data (EPA 1994) indicating an adequate level of accuracy. No qualifiers were assigned. For samples: LF-C1 and LF-C2 (NET data package 96.03157); CF-C15 (NET data package 96.02923); CF-C17 (NET data package 96.02970); and CF-9 (NET data package 96.02747), no laboratory control sample (blank spike) was performed for WTPH-D analysis and no MS/MSDs were performed; however, surrogate recoveries were within the method requirements indicating some level of accuracy. No data qualifiers were assigned.

The relative percent difference (RPD) between laboratory duplicate samples associated with total lead analysis for NET data package 96.02669 exceeded EPA control limits (EPA 1994b), indicating that the precision of those results may be questionable. All total lead results associated with this data package (samples TB-1A and TB-1B) were qualified as estimated (J). The RPD between laboratory duplicate samples

associated with WTPH-D analysis for NET data packages 96.03102 and 96.03115 exceeded laboratory requirements, indicating that the precision of those results may be questionable. All WTPH-D results associated with these data packages (samples CF-C25 and CF-C27) were qualified as estimated (J). The RPD between one of the laboratory duplicate samples associated with WTPH-D analysis for NET data package 96.02970 slightly exceeded laboratory requirements; however, the RPD between a second laboratory duplicate sample associated with WTPH-D analysis for the same data package was within the laboratory requirements, therefore, no qualifiers were assigned based on laboratory duplicate results.

No field duplicate results were submitted for WTPH-G, WTPH-D, WTPH-HCID or TCLP lead analysis. Only one field duplicate pair was submitted for total lead analysis. The RPD for this field duplicate pair was 0.0. No qualifiers were assigned based on lack of field duplicate analyses.

MS/MSD recoveries for total lead associated with NET data package 96.02856 were all reported above EPA control limits (EPA 1994b), indicating that sample results for total lead may be biased high. The RPD between the MS/MSD samples also exceeded EPA control limits (EPA 1994a) requirements, indicating that the precision of the sample results for total lead may be questionable. Associated total lead results (samples TB-11 and CF-14) were qualified as estimated (J). For NET data package 96.02898, the associated MS recovery for total lead was reported below EPA control limits (EPA 1994b) and the associated MSD recovery for total lead was above EPA control limits (EPA 1994b), indicating that sample results for total lead may be biased low in some cases and high in other cases. The RPD between the MS/MSD samples also exceeded EPA control limits (EPA 1994b), indicating that the precision of the sample results for total lead may be questionable, Associated total lead results (samples TB-12, NWP-F1, and OS-2) were qualified as estimated (J). For NET data package 96.03139, the associated MS recovery for total lead was reported above EPA control limits (EPA 1994b) and the associated MSD recovery for total lead was within EPA control limits (EPA 1994b), indicating that sample results for total lead may be biased high. The RPD between the MS/MSD samples also exceeded EPA control limits (EPA 1994b), indicating that the precision of the sample results for total lead may be questionable. Associated total lead results (sample CF-C28) were qualified as estimated (J).

No data were rejected as unusable. All laboratory results are considered acceptable with qualifiers assigned as described above. The data set completeness is 100 percent.

TABLE A-1 CLEANUP AREA CONFIRMATION SAMPLES OF SOIL/WASTE MATERIAL ANALYTICAL CHEMISTRY RESULTS

•			Total	TCLP						
Sample	Sample	Date	Lead	Lead	TPH-D	TPH-G				
Name	Location	Collected	(mg/kg)	(mg/L)	(mg/kg)	(mg/kg)	Notes			
CUI VERT E	CULVERT FILL									
CF-W4	Temp east wall, 75 ft from south end	09/11/96	10000				Source material removed			
CF-W5	Temp east wall, 65 ft from south end	09/11/96	5500				Source material removed			
CF-W6	Temp east wall, 30 ft from south end	09/11/96	7800				Source material removed			
CF-W7	Temp south wall	09/11/96	3900				Source material removed			
CF-W8	Temp east wall, middle-north area	09/26/96	870				Source material removed			
CF-W9	Temp east wall, south of CF-W8	09/28/96	2100				Source material removed			
CF-W10	Resample area of CF-W8	09/28/96	3300				Source material removed			
CF-W11	Temp east wall, north of CF-W8	09/28/96	7700				Source material removed			
CF-W12	Toe of east wall below CF-W8	09/28/96	3100				Source material removed			
CF-C8	South wall below propane tank	09/04/96	12							
CF-C9	West half of south wall	09/09/96	630		15 U	18	•			
CF-C10	Southwest floor	09/09/96	1200		25 U	40	Source material removed			
CF-C11	Resample area of CF-C9	09/11/96	560							
CF-C12	Southwest floor, resample CF-C10	09/11/96	280				,			
CF-C13	Northwest floor	09/14/96	250							
CF-C14	Southwest floor	09/17/96	68 J							
CF-C15	Toe of south wall, middle	09/20/96	•		21 U					
CF-C16	Top of south wall	09/23/96	150							
CF-C17	Northwest floor	09/25/96			20					
CF-C18	Temporary east wall at south end	09/27/96	9900				Source material removed			
CF-C19	South-middle floor	10/01/96	260		19 Ù					
CF-C20	Central-north floor	10/01/96	250		35					
CF-C21	North floor and wall	10/01/96	12		20 U					
CF-C22	Temporary east wall at south end	10/02/96	3200				Source material removed			
CF-C23	South wall near southeast corner	10/02/96	10000				Source material removed			
CF-C24	South end of temporary east wall	10/04/96	1700				Source material removed			
CF-C25	Central-east floor to toe of bedrock	10/04/96	490		90 J					
CF-C26	North and northeast wall	10/04/96	560							
CF-C27	Central southeast floor	10/07/96			19 UJ	250	Removed but not retested			
CF-C28	Central east wall and adjacent floor	10/09/96	170 J							
CF-C29	Northeast lobe, south wall	10/11/96	630							
CF-C30	Northeast lobe, east wall	10/11/96	450							
CF-C31	Northeast lobe, north wall	10/11/96	48							
CF-C32	Southeast lobe, east and north walls	10/14/96	130							
CF-C33	Upper south wall	10/14/96	3200				Source material removed			
CF-C34	Duplicate of CF-C33	10/14/96	3100				Source material removed			
CF-C35	Upper south floor	10/17/96	45							
CF-C36	Discrete layer in northeast lobe	10/17/96	3200				Thin soil layer with paint			
* TO TO TO TO TA	HILD WHO OVER I									
	TED STOCKPILE	00/0//0/	150		45		M. Harris Torres Call			
UW-4	South end quarter	09/26/96	150		65	460	Mixed into Treatment Cell			
UW-5	South middle quarter	09/26/96	640 510							
UW-6	North middle quarter	09/26/96 09/26/96	510							
UW-7	North end quarter	09/26/96	610							
NORTH FMF	BANKMENT FILL									
NE-TP2	North end	10/01/96	590							
NE-TP3	North middle	10/01/96	830							
NE-TP4	Middle	10/01/96	340							
NE-TP5	South middle	10/01/96	350							
NĒ-TP6	South end	10/01/96	610							
	Discrete sample from south end	10/01/96	720							
			-							

TABLE A-1
CLEANUP AREA CONFIRMATION SAMPLES OF SOIL/WASTE MATERIAL ANALYTICAL CHEMISTRY RESULTS

Sample	Sample	Date	Total Lead	TCLP Lead	TPH-D	TPH-G	
Name	Location	Collected_	(mg/kg)	(mg/L)	(mg/kg)	(mg/kg)	Notes
TPH-AFFEC	TED MATERIAL						
LF-C1	Treatment Cell 1, north half	10/10/96			22 U	60	Material from 1995
LF-C2	Treatment Cell 1, south half	10/10/96			53	35	Material from 1995
LF-C3	Treatment Cell 2 north half	10/23/96			22	940	Material from 1996
LF-C4	Treatment Cell 2, south half	10/23/96			26	950	Material from 1996
LF-C5	Treatment Cell 2 north half	12/20/96				1640	Resample 1996 material
LF-C6	Treatment Cell 2, south half	12/20/96				1480	Resample 1996 material
STARII IZEC	MATERIAL						
TB-1A	Windrow 1	08/30/96	380 J	0.56			
TB-1B	Windrow 1	08/30/96	530 J	0.46			
TB-2	Windrow 2	09/05/96	1500	0.05 U			
TB-3	Windrow 3	09/06/96	1400	0.80			
TB-4	Windrow 4	09/07/96	2800	0.05 U			
TB-4A	Windrow 4	09/11/96	2400	0.057			Sampled from stockpile
TB-5	Windrow 5	09/09/96	2800	0.05 Ü			•
TB-5A	Windrow 5	09/13/96	1900				Check sample from Bin 1
TB-6	Windrow 6	09/11/96	1100	0.05 Ü			*
TB-7	Windrow 7	09/12/96	660	0.05 Ū			
TB-8	Windrow 8	09/13/96	1400	0.14			
TB-9	Windrow 9	09/14/96	1200	0.34			
TB-10	Windrow 10	09/16/96	1700	0.88			
TB-11	Windrow 11	09/17/96	1400 J	1.0			
TB-12	Windrow 12	09/18/96	2100 J	0.11			
TB-13	Windrow 13	09/23/96	1000	0.41			Mixed with excavator
TB-13A	Windrow 13	09/24/96	1000	0.05 U			Remixed with Turborator
TB-14	Windrow 14	09/24/96	2400	1.1			
TB-15	Windrow 15	09/26/96	3900	0.23			
TB-16	Windrow 16	09/26/96	3800	0.82			
TB-17	Windrow 17	09/28/96	2200	3.7			
TB-18	Windrow 18	09/30/96	1500	0.81			
TB-19	Windrow 19	10/02/96	8400	2.0			
TB-20	Windrow 20	10/03/96	2900	0.86			
TB-21	Windrow 21	10/04/96	1900	2.6			
TB-22	Windrow 22	10/08/96	2200	2.0			
TB-23	Windrow 23	10/09/96	1800	0.41			
TB-24	Windrow 24	10/15/96	3400	2.4			
TB-25	Windrow 25	10/15/96	1400	0.77			
OS-1	Oversize Pile 1	09/13/96	900	0.05 U			
OS-2	Oversize Pile 2	09/19/96	780 J	0.53			
OŠ-3	Oversize Pile 3	09/28/96	2600	2.4			
OS-4	Oversize Pile 4	10/11/96	1600	2.1			
NWP-F1*	Hazardous Waste Stockpile floor	09/18/96	700 J				Native after removing pile

^{* -} Intended designation was HWP-F1 but label was misread by laboratory.

J - Analyte was positively identified, but the associated numerical value is considered an estimate.

U- Analyte was not detected at the stated quantitation limit.

UJ - Analyte was reported as undetected. The specified quantitation limit is considered an estimate.

TABLE A-2 GROUNDWATER SAMPLES ANALYTICAL CHEMISTRY RESULTS

A WELLIAM CHEMICAL MADELLA														
	Sample Name:		MV	V-1	5/ <i>a</i>	(c)	Μ\	W-2	,S	18.00	MV	W-3		(dup) 5
Parameter	Date Collected:	05/04/95			08/19/97	05/03/95		12/20/96	08/19/97	05/04/95	09/20/95	12/20/96	08/19/97	08/19/97
Total Metals ((ug/L)													
Antimony		100 U	5 U	5 U	100 U	100 U	5 U	5 U	100 U	100 U	5 U	5 U	100 U	100 U
Arsenic		5 U	4.1	5 U	4 U .2	. 5 U	5.4	5 U	5.0	5 U	27	5 U	4.6	4 U 3.0
Beryllium		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Cadmium		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chromium		10 U	10 U	10 U	10 U	10 U	10 U	11.5	10 U	10 U	10 U	10 U	10 U	10 U
Copper		30 U	30 U	30 U	30 U	30 U	30 U	32.0	30 U	30 U	30 U	30 U	30 U	30 U
Lead		2 U	2 U	2 U	2 U \v	2 U	2 U	10.5	7.44	2 U	2 U	2 U	2.34	3.83 ↓ ₩
Mercury		1 U	1 U	1 U	ו ט ๋	1 U	1 U	1 U	I U	1 U	1 U	1 U	1 U	1 U
Nickel		30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U
Selenium		150 U	2 U	5 U	5 U	150 U	2 U	5 U	5 U	150 U	2 U	5 U	5 U	5 U
Silver		20 U	20 U	20 U	20 U	20 U	20 U	20: U	20 U	20 U	20 U	20 U	20 U	20 U
Thallium		200 U	2 U	2 U	200 U	200 U	2 U	2 U	200 U	200 U	2 U	2 U	200 U	200 U
Zinc		20 U	20 U	20 U	20 U	20 U	20 U	26.5	32.0	20 U	20 U	32.6	21.9	36.2
Total Petroleu	ım Hydrocarbons (u	g/ L)												
TPH by 41		1000 U				1000 U				1000 U				
Diesel by V			250 U	250 U	250 U		250 U	250 U	250 U		270	250 U	250 U	250 U
•	by WTPH-D		750 U				750 U				750 U			
Volatile Organ	nic Compounds (ug	AL)												
Benzene		1 U	1 U			1 U	1 U			1 U	1 U			
Bromobenz	zene	1 U	1 U			1 U	1 U			1 U	1 U			
Bromochlo	romethane	1 U	1 U			1 U	1 U			1 U	1 U			
Bromodich	loromethane	1 U	1 U			1 U	ΙU			1 U	1 U			
Bromoform	n _'	1 U	1 U			1 U	1 U			1 U	1 U			
Bromometi	hane	1 U	1 U			1 U	1 U			1 U	1 U			
n-Butylben	zene	1 U	1 U			1 U	1 U			1 U	1 U			
sec-Butylbe	enzene	1 U	1 U			l U	1 U			1 U	1 U			
tert-Butylb	enzene	1 U	1 U			1 U	1 U			1 U	1 U			
Carbon tetr	rachloride	1 U	1 U			1 U	1 U			1 U	1 U			
Chlorobenz	zene	ı U	1 U			1 U	1 U			1 U	1 U			
Chloroetha	ine	1 U	1 U			1 U	1 U			1 U	1 U			
Chloroform	n	1 U	1 U			1 U	1 U			1 U	1 U			
Chlorometi	hane	1 U	1 U			1 U	1 U			ΙU	1 U			
2-Chloroto	luene	1 U	1 U			1 U	1 U			1 U	1 U			
4-Chloroto	luene	1 U	1 U			1 U	1 U			1 U	1 U			
Dibromoch	nloromethane	1 U	1 U			1 U	1 U			1 U	1 U			
1,2-Dibron	no-3-chloropropane		1 U			1 U	1 U			1 U	1 U			
1,2-Dibron	nomethane	1 U	1 U			1 U	1 U			1 U	1 U			

TABLE A- 2 GROUNDWATER SAMPLES ANALYTICAL CHEMISTRY RESULTS

	Sample Name:		MW	7-1		MV	V-2			MV	V-3		(dup)
Parameter	Date Collected:	05/04/95	09/21/95	12/20/96 08/19/97	05/03/95	09/19/95	12/20/96	08/19/97	05/04/95	09/20/95	12/20/96	08/19/97	08/19/97
Dibromomet	hane	ı U	1 U		1 U	1 U			1 U	1 U			
1,2-Dichloro		1 U	1 U		1 U	1 U			1 U	1 U			
1,3-Dichloro		1 U	1 U		1 U	1 U			1 U	1 U			
1,4-Dichloro		1 U	1 U		1 U	1 U			1 U	1 U	•		
Dichlorodifly		1 U	1 U		1 U	1 U			1 U	1 U			
1.1-Dichloro		1 U	1 U		1 U	1 U			1 U	1 U			
1,2-Dichloro	ethane	1 U	1 U		1 U	1 U			1 U	1 U			
1,1-Dichloro		1 U	1 U		1 U	1 U			1 U	1 U			
cis 1,2-Dichl	oroethene	1 U	1 U		1 U	1 U			1 U	1 U			
trans 1,2-Dic	hloroethene	1 U	1 U		1 U	1 U			1 U	1 U			
1,2-Dichloro	propane	1 U	1 U		1 U	1 U			1 U	1 U			
1,3-Dichloro	propane	1 U	1 U		1 U	ΙU			1 U	1 U			
2,2-Dichloro	ргорапе	1 U	1 U		1 U	1 U			1 U	1 U			
1,1-Dichloro	propene	1 U	1 U		1 U	1 U			1 U	1 U			
Ethylbenzene	•	1 U	1 U		1 U	1 U			1 U	1 U			
Hexachlorob	utadiene	1 U	1 U		1 U	1 U			1 U	1 U			
Isopropylben	zene	1 U	1 U		1 U	1 U			1 U	1 U			
p-Isopropylto	oluene	1 U	1 U		1 U	1 U			1 U	1 U			
Methylene cl	hloride	5 U	5 U		5 U	5 U			5 U	5 U			•
Naphthalene		1 U	1 U		1 U	1 U			1 U	1 U			
n-Propylbenz	zene	1 U	1 U		1 U	1 U			1 U	1 U			
Styrene		1 U	1 U		1 U	1 U			1 U	1 U			
1,1,1,2-Tetra	chloroethane	1 U	1 U		1 U	1 U			1 U	1 U			
1,1,2,2-Tetra	chloroethane	1 U	1 U		1 U	1 U			1 U	1 U			
Tetrachloroe	thene	1 U	1 U		1 U	1 U			1 U	1 U			
Toluene		1 U	1 U		1 U	1 U			1 U	1 U			
1,2,3-Trichle	orobenzene	1 U	1 U		1 U	1 U			1 U	1 U			
1,2,4-Trichle		1 U	1 U		1 U	1 U			1 U	1 U			
1,1,1-Trichle		1 U	1 U		1 U	1 U			U 1	1 U			
1,1,2-Trichle	oroethane	1 U	1 U		1 U	1 U			1 U	1 U			
Trichloroethe	ene	1 U	1 U		1 U	1 U			U 1	1 U			
Trichlorofluc		1 U	- 1 U		1 U	1 U			1 U	1 U			
1,2,3-Trichlo		1 U	1 U		1 U	1 U			1 U	1 U			
1,2,4-Trimet	-	1 U	1 U		1 U	1 U			1 U	1 U	•		
1,3,5-Trimet		1 U	1 U		1 U	1 U			1 U	1 U			
Vinyl chlorid	de	1 U	1 U		1 U	1 U			1 U	1 U			
o-Xylene		1 U	1 U		1 U	1 U			U 1	1 U			
m,p-Xylene		1 U	1 U		1 U	1 U			1 U	1 U			

U - Analyte was not detected at the stated quantitation limit.

TABLE A-3

SUMMARY OF DATA QUALIFIERS

Analyte	Qualifier	Sample Number	Reason
lead	J	TB-1A	Low precision in lab duplicate
		TB-1B	
lead	1	TB-11	High MS/MSD recoveries and
		CF-C14	low precision in MS/MSD
lead	j	TB-12	Low MS/MSD recoveries and
		NWP-F1	low precision in MS/MSD
		OS-2	
lead	J	CF-C28	High MS recovery and low
			precision in MS/MSD
diesel	J, UJ	CF-C25	Low precision in lab
		CF-C27	duplicates



Project:

Location:

NATIONAL ENVIRONMENTAL TESTING, INC.

Winlock Wood Products

Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

281001.51

Date: 09/11/1996 NET Account No.: 36025

NET Job Number: 96.02669

RECEIVED

SEP 25 1988

LANDAU ASSOCIATES, INC.

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Dātė	Date
Number	Sample Description	Туре	Taken	Received
68921	TB-1A	SOIL	08/30/1996	08/30/1996
68922	TB-1A TCLP	SOIL	08/30/1996	08/30/1996
68923	TB-1B TCLP	SOIL	08/30/1996	08/30/1996
69118	TB-1B	SOIL	08/30/1996	09/09/1996

· Approved by:

Marty French

NET, INC. Division Manager

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

09/11/1996 Job No.: 96.02669

09/09/1996

09/10/1996

mg/kg

Page: 2

Project Name:

ICP/AA Digestion - Soil

Lead, ICP

Winlock Wood Products 08/30/1996

Date Received: 08/30/1996

Sample Number

Sample Description

oumple Number	bempre beact.	TPC TON					
68921	TB-1A						
PARAMETERS		METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion -	Soil	ICP	-	-		09/03/1996	
Lead, ICP		6010	380	1.0	mg/kg		1
Sample Number	Sample Descr	iption					
68922	TB-1A TCLP						
PARAMETERS		METHODS	RESULTS	REPORT_LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion -	Wāter	ICP	-			09/04/1996	
TCLP EXTRACTION PRE	P	1311	-			09/03/1996	
TCLP - Lead, ICP		6010	0.56	0.05	mg/L	09/04/1996	
Sample Number	Sample Descr	iption					
68923	TB-1B TCLP						
PARAMETERS		METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion -	Water	ICP	-			09/04/1996	
TCLP EXTRACTION PRE	P	1311	-			09/03/1996	
TCLP - Lead, ICP		6010	0.46	0.05	mg/L	09/04/1996	
	•						
Sample Number	Sample Descri	iption					
69118	TB-1B.						
<u>PARAMETERS</u>	•	<u>METHODS</u>	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

530

1.0

ICP

6010

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/11/1996

P.O. Box 1029

NET Job Number: 96.02669

Edmonds, WA 98020-9129

Contact:

Project:

Tim Huntting Winlock Wood Products

CCV

True

Concentration

Percent

Date

Analyte

Concentration Found

Recovery

Analyzed

Lead, ICP

0.500

0.50

100.0

09/10/1996

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/11/1996

NET Job Number: 96.02669

P.O. Box 1029 Edmonds, WA 98020-9129

Contact:

Tim Huntting

Project: Winlock Wood Products

LCS

	True	Concentration	LCS		Date
Analyte	Concentration	Found	Recovery		Analyzed
Lead, ICP	50.0	51	102.0		09/04/1996
Lead, ICP	50.0	48	96.0		09/10/1996
TCLP - Lead, ICP	0.500	0.50	100.0	1	

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

QUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Landau Associates, İnc. 23107 100th Avenue W

Date: 09/11/1996

NET Job Number: 96.02669

P.O. Box 1029 Edmonds, WA 98020-9129

Contact:

Tim Huntting Winlock Wood Products Project:

alyte	Matrix Spike Result	Sample Result	Spike Amount	Unit s	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD	
Lead, ICP	Dil.	380	50.0	mg/kg		Dil.	50.0	mg/kg		8.70	1
Lead, ICP TCLP - Lead, ICP	Dil. 0.50	1100 ND	50.0 0.500	mg/kg mg/L	100.0	Dil. 0.50	50.0 0.500	mg/kg mg∕L	100.0	0.0	

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil. = Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/11/1996

P.O. Box 1029

NET Job Number: 96.02669

Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products

Location: 281001.51

	Blank	Date			
Analyte	Analysis	MDL	Units	Analyzed	
Lead, ICP	ND	1.0	mg/kg	09/04/1996	
Lead, ÍCP	ND	1.0	mġ/kġ	09/10/1996	
TCLP - Lead, ICP	ND	0.005	mg/L		

Advisory Control Limits for Blanks:

Metals/Wet-Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit.

GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

QUALITY CONTROL REPORT DUPLICATES

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029

Date: 09/11/1996

NET Job Number: 96.02669

Edmonds, WA 98020-9129

Contact:

Tim Huntting Winlock Wood Products Project:

> Original Duplicate Date

Analyte Analysis Analysis Units Analyzed RPD Flag

Lead, ICP 380 3800 09/04/1996 1 mg/kg 163.6

NOTE: Duplicates may not be samples from this job.

RPD - Relative Percent Difference

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- The sample appears to extend to a lighter hydrocarbon range than diesel.
- F The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- The LCS recovery exceeded control limits. See the LCS page of this report.
- MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.



Portland Division 17400 ŚW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting
Landau Associates, Inc.
23107 100th Avenue W
P.O. Box 1029
Edmonds, WA 98020-9129

Date: 09/06/1996

NET Account No.: 36025 NET Job Number: 96.02669

Project: Winlock Wood Products

Location: 281001.51

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Date
Number	Sample Description	Туре	Taken	Received
68921	TB-1A	SOIL	08/30/1996	08/30/1996
68922	TB-1A TCLP	SOIL	08/30/1996	08/30/1996
68923	TB-1B TCLP	SOIL .	08/30/1996	08/30/1996

Approved by:

Marty Rrench

NET, INC. Division Manager

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

09/06/1996

Job No.: 96.02669

09/04/1996

mg/L

Page: 2

Project Name:

Winlock Wood Products

Date Received: 08/30/1996

Sample Number

TCLP - Lead, ÎCP

Sample Description

6010

68921

TB-1A

<u>PARAMETERS</u> ICP/AA Digestion -	Soil	<u>METHODS</u> ICP	RESULTS	REPORT_LIMIT	<u>UNITS</u>	DATE ANALYZED 09/03/1996	FLAG
Lead, ICP		6010	380	1.0	mg/kg		1
Sample Number	Sample Descri	ption			. 1		
PARAMETERS ICP/AA Digestion - TCLP EXTRACTION PRE TCLP - Lead, ICP		METHODS ICP 1311 6010	RESULTS - 0.56	REPORT LIMIT 0.05	UNITS mg/L	DATE ANALYZED 09/04/1996 09/03/1996 09/04/1996	FLAG
Sample Number 68923	Sample Descri TB-1B TCLP	ption					
PARAMETERS ICP/AA Digestion - TCLP EXTRACTION PRE		METHODS ICP 1311	RESULTS - -	REPORT LIMIT	<u>UNITS</u>	DATE ANALYZED 09/04/1996 09/03/1996	<u>FLAG</u>

0.46

0.05

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc.

Date: 09/06/1996

23107 100th Avenue W P.O. Box 1029

NET Job Number: 96.02669

Edmonds, WA 98020-9129

Contact:

Tim Huntting

Project: Winlock Wood Products

LCS

Analyte Lead, ICP TCLP - Lead, ICP True Concentration LCS Concentration Found % Recc 50.0 51 102.4

Recovery

Date Analyzed 09/04/1996

TCLP - Lead, ICP 0.500 0.50 100.0 1

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

OUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/06/1996

NET Job Number: 96.02669

P.O. Box 1029

Edmonds, WA 98020-9129

Contact:

Project:

Tim Huntting Winlock Wood Products

alyte	Matrix Spike Reğult	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD	
Lead, ICP TCLP - Lead, ICP	Dil. 0.50	380 ND	50.0 0.500	mg/kg mg/L	100.0	Ď11. 0.50	50.0 0.500	mg/kg mg/L	100.0	8.70 0.0	1

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD * Matrix Spike Dupličáté

RPD = Relative Percent Difference

dil. = Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/06/1996

P.O. Box 1029

NET Job Number: 96.02669

Edmonds, WA 98020-9129

Contact: Tim Huntting Project: Winlock Wood Products

Location: 281001.51

Blank Date Analyte Analysis MDL Units Analyzed Lead, ICP ND 1.0 mg/kg 09/04/1996 TCLP - Lead, ICP ND 0.005 mg/Ļ

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit. GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- The sample appears to contain a lighter hydrocarbon than gasoline.
- The sample appears to extend to a heavier hydrocarbon range than gasoline.
- The sample appears to extend to a lighter hydrocarbon range than diesel.
- The sample appears to extend to a heavier hydrocarbon range than diesel.
- The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- The LCS recovery exceeded control limits. See the LCS page of this report.
- MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

LANDAU ASSOCIA Edmonds, WA (20 FAX (206)778-640	ATES, INC. 6) 778-0907 9	i s is a s Tin suck	× 10 يو دي دن ۲ ۱۶ کارو دن	Chai	n-of-	Cı	IS	tod	y I	Re	CC	rd		Νº	1488		<u>੪-3。-﴾</u> of	
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NATIONAL ENVIRONMENTAL TESTING, INC.

Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Date: 09/10/1996

NET Account No.: 36025 NET Job Number: 96.02702

RECEIVED

Project: Winlock Wood Products Location: 281001.51

SEP 25 1996

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Date
Number	Sample Description	Type	Taken	Received
69005	CF-C8	SOIL	09/04/1996	09/05/1996
69006	TB-2	SOIL	09/05/1996	09/05/1996
69007	TB-2 TCLP	SOIL	09/05/1996	09/05/1996

Approved-by:

Marty French

NET, INC. Division Manager

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

09/10/1996

Job No.: 96.02702

Page: 2

Project Name:

Winlock Wood Products 09/05/1996

Date Received:

Sample Number

Sample Description

69005

CF-C8

<u>PARAMETERS</u>	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Soil	ICP	÷	-		09/06/1996	
Lead, ICP	6010	10	1.0	/1	00/00/1006	

Sample Number

Sample Description

69006

TB-2

<u>PARAMETERS</u>	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	<u> FLAG</u>
ICP/AA Digestion - Soil	ICP	-	,		09/06/1996	
Lead, ICP	6010	1500	1.0	mg/kg	09/09/1996	

Sample Number

Sample Description

69007

TB-2 TCLP

PARAMETERS	<u>METHODS</u>	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Water	ĪĊÞ	4			09/06/1996	
TCLP EXTRACTION PREP	1311	-			09/05/1996	
TCLP - Lead, ICP	6010	ND	0.05	mg/ <u>L</u>	09/09/1996	

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/10/1996

P.O. Box 1029

NET Job Number: 96.02702

Edmonds, WA 98020-9129

Contact:

Tim Huntting Winlock Wood Products Project:

CCV

True Concentration Percent Date Analyte Concentration Found Recovery Analyzed

TCLP - Lead, ICP 0.500 0.51 102.0 09/09/1996

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/10/1996

P.O. Box 1029

NET Job Number: 96.02702

Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products

LCS

True Concentration LCS Date Analyte Concentration Found * Recovery Analyzed Lead, İCP 100 96 96.0 09/09/1996 TCLP - Lead, ICP 0.500 0.51 102.0 09/09/1996

 $\hat{\mathbf{L}}\hat{\mathbf{C}}\hat{\mathbf{S}}$ - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

OUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/10/1996

P.O. Box 1029

NET Job Number: 96.02702

Edmonds, WA 98020-9129

Contact: Tim Huntting Project: Winlock Wood Products

.malyte	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD
Lead, ICP TCLP - Lead, ICP	Dil. 0.49	1500 ND	50.0 0.500	mg/kg mg/L	98.0	Dil. 0.49	50.0 0.500	mg/kg mg/L	98.0	0.80

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil.= Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/10/1996

NET Job Number: 96.02702

P.O. Box 1029 Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products

Location: 281001.51

Analyte	Blank Analysis	MOL	Units	Date Analyzed
Lead, ICP	ND	1.0	mg/kg	09/09/1996
TCLP = Lead, ICP	ND	0.005	mg/L	09/09/1996

Advisory Control Limits for Blanks:

Metals/Wet Chemiëtry/ Conventionals/GC - all compounds should be less than the Reporting Limit. GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- F The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

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Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Hunting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Project: 281001.51

Location: Winlock Wood Products

Date: 09/11/1996

NET Account No.: 36025 NET Job Number: 96.02728

RECEIVED

SEP 2.5 1998

LANDAU ASSOCIATES

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Date
Number	Sample Description	Туре	Taken	Received
69113	TB-3	SOIL	09/06/1996	09/06/1996
69114	TB-3 TCLP	SOIL	09/06/1996	09/06/1996

Approved by:

Marty French

NET, INC. Division Manager

ANALYTICAL REPORT

Tim Hunting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

09/11/1996

Job No.: 96.02728

Page: 2

Project Name: Date Received: 281001.51 09/06/1996

Sample Number

Sample Description

69113

TB - 3

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total	160.3	80	0.01	*	09/11/1996	
ICP/AA Digestion - Soil	ICP	-	-		09/09/1996	
Lead, ICP	6010	1,400	1.2	mor/kord	09/10/1996	

Sample Number

Sample Description

69114

TB-3 TCLP

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Water	ICP	-			09/10/1996	
TCLP EXTRACTION PREP	1311	-			09/09/1996	
TCLP - Lead, ICP	6010	0.80	0.05	mg/L	09/11/1996	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc.

Date: 09/11/1996

23107 100th Avenue W P.O. Box 1029

NET Job Number: 96.02728

Edmonds, WA 98020-9129

Contact: Tim Hunting Project: 281001.51

	CCV			
	True	Concentration	Percent	Date
Analyte	Concentration	Found	Recovery	Analyzed
Tail TOP				
Lead, ĮCP	0.500	0.50	100.0	09/10/1996
TCLP - Lead, ICP	0.500	0.50	100.0	09/11/1996

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Lāndau Associates, Inc. 23107 100th Āvenue W

Date: 09/11/1996

P.O. Box 1029

NET Job Number: 96.02728

Edmonds, WA 98020-9129

Contact: Tim Hunting Project: 281001.51

LCS

True Concentration LCS Date Analyte Concentration Found * Recovery Analyzed Lead, ICP 50.0 48 96.0 09/10/1996 TCLP - Lead, İCP 0.500 0.49 98.0 09/11/1996

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

QUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029

Date: 09/11/1996

NET Job Number: 96.02728

Edmonds, WA 98020-9129

Contact: Tim Hunting Project: 281001.51

alyte	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Špike Amount	Units	Percent Recovery	MS/MSD ŘPD
Lead, ICP TCLP - Lead, ICP TCLP - Lead, ICP	Dil. 0.49 0.49	1100 ND ND	50.0 0.500 0.500	mg/kg mg/L mg/L	98.0 98.0	Dil. 0.49 0.49	50.0 0.500 0.500	mg/kg mg/L mg/L	98.0 98.0	0.0

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil.= Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/11/1996

P.O. Box 1029

NET Job Number: 96.02728

Edmonds, WA 98020-9129

Contact: Tim Hunting Project: 281001.51

Location: Winlock Wood Products

	Blank			Date
Analyte	Analysis	MDL	Units	Analyzed
Lead, ICP	ND	1.0	mg/kg	09/10/1996
ŤCLP - Lead, ĬČP	ND	0.005	mg/L	09/11/1996

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit.

GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- L The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

NET, INC.

PORTLAND DIVISION

ORDER CONFIRMATION

Date Received: 09/06/1996
Due Date: 09/12/1996

Disposal Method:
P.O. Reference:
Rüsh Stätus:
Payment Terms: NET 30

SDG No.

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020=9129

Attention: Accounts Payable

The following samples were received 09/06/1996. This confirms the receipt of the samples and acknowledges the work to be performed on those samples:

NET Project ID: Winlock Wood Products

BT Job Number: 96.02728
NET Quote Number: .0000
Total Number of Samples:

Sample Description:

69113

TB-3

For the following analyses:

Test/Procedure	Method	Price	Extension		
Solids, Total	160.3	\$.00	\$.00	
ICP/AA Digestion - Soil	ICP	\$ 5.00	\$	5.00	
ICP HEADER		\$.00	\$.00	
Lead, ICP	6010	\$ 8.00	\$	8.00	
			\$	13 00	

Sample Description:

69114

TB-3 TCLP

For the following analyses:

Test/Procedure	Method	į	Price	Ext	ension
ICP/AA Digestion - Water	ICP	\$	5.00	\$	5.00
ICP HEADER		\$.00	\$.00
TCLP EXTRACTION PREP	1311	\$	50.00	\$	50.00
TCLP - Lead, ICP	6010	\$	8.00	\$	8.00
				\$	63.00
		Gra	and Total:	\$	76.00

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Winlock Wood Products

Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

281001.51

Project:

Location:

Date: 09/12/1996 NET Account No.: 36025 NET Job Number: 96.02747

RECEIVED

NECEIVED

SEP 2 5 1996

LANDAU ASSOCIATES, INC.

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Date
Number	Sample Description	Туре	Taken	Received
69173	TB-4 TCLP	SOIL	09/07/1996	09/09/1996
69174	TB-4	SOIL	09/07/1996	09/09/1996
69175	CF-9	SOIL	09/09/1996	09/09/1996
69176	CF~10	SOIL	09/09/1996	09/09/1996

Approved by:

Marty French

NET, INC. Division Manager

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

09/12/1996 Job No.: 96.02747

Page: 2

Project Name: Date Received:

Winlock Wood Products 09/09/1996

Sample Number

Sample Description

Sample Number	bampie beaci.	iperon						
69173	TB-4 TCLP							
PARAMETERS		METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG	
ICP/AA Digestion -	Water	ICP	-			09/10/1996	<u>=</u>	
TCLP EXTRACTION PRE		1311	_			09/09/1996		
TCLP - Lead, ICP		6010	ND	0.05	mg/L	09/11/1996		
					9, 2	03, 11, 1330		
Sample Number	Sample Descri	iption						
69174	TB-4							
PARAMETERS		METHODS	RESULTS	REPORT LIMIT	UNITS	DATE_ANALYZED	FLAG	
Solids, Total		160.3	74	0.01	ŧ	09/11/1996		
ICP/AA Digestion -	Soil	ICP	-	-		09/09/1996		
Lead, ICP		6010	2,800	1.4	mg/kg d	09/10/1996		
					5. 5			
Sample Number	Sample Number Sample Description							
69175	CF-9							
		•						
<u>PARAMETERS</u>		METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG	
Solids, Total		160.3	71	0.01	*	09/11/1996		
ICP/AA Digestion -	Soil	ICP	-	-		09/09/1996		
Lead, ICP		6010	630	1.4	mg/kg d	09/10/1996		
WTPH-Diesel (S) PREP		WTPH-D	-	.	4. 4	09/10/1996		
WTPH-Diesel (S)								
Diesel		WTPH-D	ND ·	21.	mg/kg d	09/10/1996 -		
WTPH-GAS (S)						,,,		
Dilution Factor			1	_		09/10/1996		
Gasoline		WTPH-G	18.	4.	mg/kg d			
		F F F F		••		03/ 10/ 13/0		
Sample Number	Sample Descri	ption						
69176	CF-10	•						
PARAMETERS		METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG	
Solids, Total		160.3	74	0.01	*	09/11/1996		
ICP/AA Digestion -	Soil	ICP	=	-		09/09/1996		
-						, 05, 4550		

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W

09/12/1996 Job No.: 96.02747

P.O. Box 1029 Edmonds, WA 98020-9129

Page: 3

Project Name: Date Received:

Winlock Wood Products 09/09/1996

Sample Number

Sample Description

69176

CF-10

PARAMETERS Lead, ICP WTPH-HCID (S) PREP	METHODS 6010	RESULTS 1,200	REPORT LIMIT	<u>UNITS</u> mg/kg d	DATE ANALYZED 09/10/1996	FLAG
WTPH-HCID (S)		-	-	•	09/09/1996	
Dilution Factor Gasoline	WTPH-HCID	1 Gas	14.	mg/kg d	09/10/1996 09/10/1996	
Diesel Heavy Oils	WTPH-HCID WTPH-HCID	ND ND	34. 68.	mg/kg d mg/kg d	09/10/1996 09/10/1996	
WTPH-GAS (S) Dilution Factor		•		, , , ·	00/11/1006	
Gasoline	WTPH-G	40.	4.	mg/kg d	09/11/1996 09/11/1996	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

SURROGATE REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

09/12/1996 Job No.: 96.02747

Page: 4

Project Name: Date Received:

Winlock Wood Products 09/09/1996

SURROGATES		METHODS	RESULTS		DATE ANALYZED	PLL
Sample Number 69175	Sample De	scription				
o-Terphenyl (Surr.)		WTPH-D	98	1	09/10/1996	
aaa-Trifluorotoluene	e (Surr.)	WTPH-G	97	*	09/10/1996	
4-Bromofluorobenzene	(Surr.)	WTPH-G	98	¥	09/10/1996	
Sample Number	Sample De	scription				
69176	CF-10					
o-Terphenyl (Surr.)		М ТРН-НСІ	104	*	09/10/1996	
aaa-Trifluorotoluene	e (Surr.)	WTPH-G	107	ł	09/11/1996	
4-Bromofluorobenzene	e (Surr.)	WTPH-G	98	*	09/11/1996	

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/12/1996

P.O. Box 1029

NET Job Number: 96.02747

Edmonds, WA 98020-9129

Contact: Tim Huntting Project: Winlock Wood Products

	ĊĊV				
	True	Concentration	Percent	Date	
Analyte	Concentration	Found	Recovery	Analyzed	
Lood IGD		_ ==			
Lead, ICP	0.500	0.50	100.0	09/10/1996	
TCLP - Lead, ICP	0.500	0.50	100.0	09/11/1996	
WTPH-Diesel (S)					
Diesel	402.2	391	97.2	09/10/1996	
WTPH-Diesel (S)					
Diesel	402.2	411.9	102.4	09/10/1996	
WTPH-GAS (S)				,,	
Gasoline	700	805	115.0	08/28/1996	
WTPH-GAS (S)					
Gasoline	700	710	101.4	08/30/1996	
WTPH-GAS (S)					
Gasoline	700	655	93.6	09/06/1996	
WTPH-GAS (S)					
Gasoline	700	677	96.7	09/09/1996	
WTPH-GÅS (S)					
Gasoline	700	687	98.1	09/10/1996	
WTPH-GAS (S)					
Gasoline	700	715	102.1	09/10/1996	
WTPH-GAS (S)					
Gasoline	700	699	99.9	09/11/1996	

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

Landau Associates, Inc.

Date: 09/12/1996

NET Job Number: 96.02747

23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Tim Huntting Contact:

Project: Winlock Wood Products

	LCŞ			
	True	Concentration	LCS	Date
Analyte	Concentration	Found	* Recovery	Analyzed
Ļead, ICP	50.0	49	98.0	09/10/1996
TCLP - Lead, ICP	0.500	0.50	100.0	09/11/1996
WTPH-Diesel (S)				
Diesel	50.28	53.68	106.8	09/09/1996
WTPH-Diesel (S)				
Diesel	50.28	51.75	102.9	09/09/1996
WTPH-GAS (S)				
Gasoline	350	415	118.6	08/28/1996
WTPH-GAS (S)		•		
Gasoline	350	414	118.3	08/28/1996
WTPH-GAS (S)				
Gasoline	50.8	54.0	106.3	08/28/1996
WTPH-GAS (S)				
Gasoline	50.8	61.2	120.5 Ĺ	08/28/1996
WTPH-GAS (S)				
Gasoline	350	330	94.3	08/30/1996
WTPH-GAS (S)				·
Gasoline	350	380	108.6	08/30/1996
WTPH-GAS (S)				
Gasolinē	350	349	99.7	09/06/1996
WTPH-GAS (S)				
Gasoline	350	378	108.0	09/06/1996
WTPH-GAS (S)				
Gasoline	350	394	112.6	09/09/1996
WTPH-GAS (S)				
Gasoline	350	387	110.6	09/10/1996
WTPH-GAS (S)				
Gasoline	350	353	100.9	09/10/1996
WTPH-GAS (S)				
Gasoline	50.8	55.5	109.3	09/10/1996

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Date: 09/12/1996

NET Job Number: 96.02747

Contact: Tim Huntting Project: Winlock Wood Products

	LCS			
	True	Concentration	LCS	Date
Analyte	Concentration	Found	* Recovery	Analyzed
WTPH-GAS (S)		•		
Gasoline	50.8	57.5	113.2	09/10/1996
WTPH-GAS (S)				
Gasoline	350	344	98.3	09/11/1996
WTPH-GAS (S)				
Gasoline	350	338	96.6	09/11/1996

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

OUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/12/1996

P.O. Box 1029

NET Job Number: 96.02747

Edmonds, WA 98020-9129

Contact: Tim Huntting Project: Winlock Wood Products

nalyte	Matrix Špike Result	Sample Result	Spike Amount	Ünits	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD	
Lead, ICP	87	38	50.0	mg/kg	98.0	77	50.0	mg/kg	78.0	22.7	MR
TCLP - Lead, ICP WTPH-GAS (S)	0.47	ND	0.500	mg/L	94.0	0.48	0.500	mg/L	96.0	2.1	
Gasoline	58.4	12	50.8	mg/Kg	91.3	61.6	50.8	mg/Kg	97.6	6.7	
WTPH-GAS (S)											
Gasoline	59.8	ND	50.8	mg/Kg	117.7	55.8	50.8	mg/Kg	109.8	6.9	

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil.= Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/12/1996

NET Job Number: 96.02747

P.O. Box 1029 Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products

Location: 281001.51

	Blank			Date
Analyte	Analysis	MDL	Units	Analyzed
Lead, ICP	ND	1.0	mg/kg	09/10/1996
TCLP - Lead, ICP	ND	0.005	mg/L	09/11/1996
WTPH-HCID (S)				
Gasoline	ND	10	mg/Kg	08/08/1996
Diesel	ND	25	mg/Kg	08/08/1996
Héāvy Oils	ND	50	mg/Kg	08/08/1996
o-Terphenyl (Surr.)	91	-	*	08/08/1996
WTPH-HCID (S)				
Gasoline	ND	10	mg/Kg	08/16/1996
Diesel	ND	25	mg/Kg	08/16/1996
Heavy Oils	ND	50	mg/Kg	08/16/1996
o-Terphenyl (Surr.)	90	-	*	08/16/1996
WTPH-HCID (S)				
Gasoline	ND	10	māg∕Kgr	09/10/1996
Diesel	ND	25	mg/Kg	09/10/1996
Heavy Oils	ND	50	mg/Kg	09/10/1996
o-Terphenyl (Surr.)	85	-	ł	09/10/1996
WTPH-Diesel (S)				
Diesel	ND	15	mg/Kg	09/09/1996
o-Terphenyl (Surr.)	80	÷	*	09/09/1996
WTPH-Diesel (S)				
Diesel	ND	15	mg/Kg	09/10/1996
o-Terphenyl (Surr.)	97	_	*	09/10/1996
WTPH-GAS (S)				
Gasöline	ND	10	mg/Kg	08/28/1996
aaa-Trifluorotoluene (Surr.)	96	-	*	08/28/1996

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit. GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

Date: 09/12/1996

NET Job Number: 96.02747

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029

Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products

Location: 281001.51

Analyte		Blank Analysis	MDL	Units	· Date Añālyžed
					-
WTPH-GAS (S)					
Gasoline		ND	10	mg/Kg	08/30/1996
aaa-Trifluorotoluene	(Surr.)	98	-	*	08/30/1996
WTPH-GAS (S)					
Gasoline		ND	10	mg/Kg	09/06/1996
aaa-Trifluorotoluene	(Surr.)	90	-	ŧ	09/06/1996
WTPH-GAS (S)					
Gasoline		ND	10	mg/Kg	09/09/1996
aaa-Trifluorotoluene	(Surr.)	95	-	ġ.	09/09/1996
WTPH-GAS (S)					
Gasoline		ND	10	mg/Kg	09/10/1996
aaa-Trifluorotoluene	(Surr.)	93	_	*	09/10/1996
WTPH-GAS (S)					
Gasoline		ND	10	mg/Kg	09/10/1996
aaa-Trifluorotoluene	(Surr.)	93	-	*	09/10/1996
WTPH-GAS (S)					
Gasoline		ND	10	mg/Kg	09/10/1996
aaa-Trifluorotoluene	(Surr.)	88	_	*	09/10/1996
WTPH-GAS (S)					•
Gasoline		ND	10	mg/Kg	09/11/1996
aaa-Trifluorotoluene	(Surr.)	102	-	*	09/11/1996

· Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit. GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

QUALITY CONTROL REPORT DUPLICATES

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/12/1996

P.O. Box 1029

Edmonds, WA 98020-9129

NET Job Number: 96.02747

Contact:

Contact: Tim Huntting Project: Winlock Wood Products

Analyté	Original Analysis	Duplicate Analysis	Units	ŔÞĎ	Date Analyzed	Flag
WTPH-HCID (S)						
Gāšōline	ND	ND	mg/kg		08/08/1996	
Diesel	Diesel	ND	mg/kg		08/08/1996	F,R
Heavy Oils	H.011	H.011	mg/kg		08/08/1996	I
WTPH-HCID (S)					00,00,1330	•
Gasoline	Gas	Gas	mg/Kg		08/16/1996	Ď
Diesel	Diesel	Diesel	mg/Kg		08/16/1996	
Heavy Oils	H.Oil	H.Oil	mg/Kg		08/16/1996	
WTPH-Diesel (S)					00, 20, 2550	
Diesel	2,700	2,700	mq/kq	0.0	09/09/1996	
WTPH-GAS (S)			J. J		,,	
Gasoline	ND	ND	mg/Kg		08/28/1996	•
WTPH-GAS (S)					,	
Gasoline	ND	NĎ	mg/Kg		08/28/1996	
WTPH-GAS (S)			J. J		., .,	
Gasoline	ND	ND	mg/Kg		08/28/1996	
WTPH-GAS (S)					, , ,	
Gasoline	110	110	mg/Kg	0.0	09/09/1996	
WTPH-GAS (S)			. J		,	
Gasoline	ND	ND	mg/Kg		09/10/1996	
WTPH-GAS (S)					,	
Gasoline	ND	ND	mg/Kg		09/10/1996	
WTPH-GAS (S)			4 . 3			
Gāsöline	40.	40.	mg/kg	6.5	09/11/1996	

NOTE: Duplicates may not be samples from this job.

RPD - Relative Percent Difference

- Ä This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- The sample appears to extend to a heavier hydrocarbon range than gasoline.
- The sample appears to extend to a lighter hydrocarbon range than diesel.
- The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

LANDAU ASSOCIATES, INC. Edmonds, WA (206) 778-0907 FAX (206)778-6409

Chain-of-Custody Record

Νō

1588

Date 9/7/96

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NATIONAL ENVIRONMENTAL TESTING, INC.

Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 Date: 09/26/1996

NET Account No.: 36025 NET Job Number: 96.02763

PECENTO

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LANDAU ASSOCIATED INC.

Project: Winlock Wood Products Location: Winlock Wood Products

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Date
Number	Sample Description	Туре	Taken	Received
69269	TB-5	SOIL	09/09/1996	09/10/1996
69270	TB-5 TCLP	SOIL	09/09/1996	09/10/1996

Approved by:

rty French

NET, INC. Division Manager

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

09/26/1996

Job No.: 96.02763

Page: 2

Project Name:

Winlock Wood Products

76

Date Received:

09/10/1996

Sample Number

Sample Description

69269

ŤB-5

PARAMETERS Solids, Total ICP/AA Digestion - Soil **METHODS** 160.3

RESULTS REPORT LIMIT 0.01

UNITS DATE ANALYZED 09/12/1996

Lead, ICP

ĬĊĐ 6010

2,800 1.3

09/11/1996 mg/kg d 09/11/1996

Sample Number

Sample Description

69270

TB-5 TCLP

PARAMETERS METHODS RESULTS REPORT LIMIT DATE ANALYZED ICP/AA Digestion - Water ICP 09/12/1996 TCLP EXTRACTION PREP 1311 09/11/1996 TCLP - Lead, ICP 6010 ND 0.05 mg/L 09/13/1996

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFIC

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Date: 09/26/1996

NET Job Number: 96.02763

Contact:

Tim Huntting

Winlock Wood Products Project:

CCV

True

Concentration

Percent

Date

Analyte

Concentration Found

Recovery

Analyzed

TCLP - Lead, ICP

0.500

0.49

98.0

09/13/1996

ČCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products

> LCS True

0.500

Concentration

Analyte TCLP - Lead, ICP Concentration LCS

Found

0.51

* Recovery 102.0

Date: 09/26/1996

NET Job Number: 96.02763

Analyżed 09/13/1996

LCS - Laboratory Control Ständard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

OUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Landau Associates, Inc.

Date: 09/26/1996

23107 100th Avenue W

NET Job Number: 96.02763

P.O. Box 1029 Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products

alyte	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Récovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD
TCLP - Lead, ICP	0.50	ND	0.500	mg/L	100.0	0.50	0.500	mg/L	100.0	0.0

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spike Duplicate RPD = Relative Percent Difference

dil. = Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Date: 09/26/1996

NET Job Number: 96.02763

Contact: Tim Huntting

Project: Winlock Wood Products Location: Winlock Wood Products

Analyte Analysis MDL Units Analyzed

TCLP - Lead, ICP ND 0.005 mg/L 09/13/1996

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit.

GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- F The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- L The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

LANDAU ASSOCIATES, INC. Edmonds, WA (206) 778-0907 FAX (206)778-6409

Chain-of-Custody Record Nº 2101

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Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 Date: 09/13/1996

NET Account No.: 36025 NET Job Number: 96.02782

Project: Winlock Wood Products

281001.51

Location:

RECEIVED

CED 251

SEP 2 5 1996

LANDAU ASSOCIATES, INC.

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Date
Number	Sample Description	Type	Taken	Received
69378	TB-6	SOIL	09/11/1996	09/11/1996
69379	CF=11	SOIL	09/11/1996	09/11/1996
69380	CF-12	SOIL	09/11/1996	09/11/1996
69381	TB-4Å	SOIL	09/11/1996	09/11/1996
.69382	TB-6 TCLP	SOIL	09/11/1996	09/11/1996
69383	TB-4A TCLP	SOIL	09/11/1996	09/11/1996

Approved by:

Marty French

NET, INC. Division Manager

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

09/13/1996

Job No.: 96.02782

Page: 2

Project Name:

Winlock Wood Products 09/11/1996

Date Received:

Sample Number

Sample Description

69378

TB-6

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Šoil	ICP	-	-		09/12/1996	
Lead, ICP	6010	1100	1.0	mg/kg	09/12/1996	

Sample Number

Sample Description

69379

CF-11

<u>PARAMETERS</u>	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Soil	ICP	-	-		09/12/1996	
Lead, ICP	6010	560	1.0	mg/kg	09/12/1996	

Sample Number

Sample Description

69380 CF-12

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Soil	ICP	-	-		09/12/1996	
Lead, ICP	6010	280	1.0	mg/kg	09/12/1996	

Sample Number

Sample Description

69381

TB-4A

PARAMETERS	<u>METHODS</u>	RESULTS	REPORT_LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Soil	ĪCÞ	-	-		09/12/1996	
Lead, ICP	6010	2400	1.0	mg/kg	09/12/1996	

Sample Number

Sample Description

69382

TB-6 TCLP

PARAMETERS	METHODS	RESULTS	REPORT_LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Water	ICP	-			09/12/1996	
TCLP EXTRACTION PREP	1311	÷			09/11/1996	
TCLP - Lead, ICP	6010	ND	0.05	mg/L	09/13/1996	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

09/13/1996 Job No.: 96.02782

Page: 3

Project Name: Date Received: Winlock Wood Products

09/11/1996

Sample Number

Sample Description

69383

TB-4A TCLP

<u>PARAMETERS</u>	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Water	ICP	-			09/12/1996	
TCLP EXTRACTION PREP	1311	-			09/11/1996	
TCLP - Lead, ICP	6010	0.057	0.05	mg/L	09/13/1996	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc.

Date: 09/13/1996

NET Job Number: 96.02782

23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Contact:

Tim Huntting Winlock Wood Products Project:

	CCV						
	True	Concentration	Percent	Date			
Analyte	Concentration	Found	Recovery	Analyzed			
Lead, ICP	0.500	0.51	102.0	09/12/1996			
TCLP - Lead, ĪCP	0.500	0.49	98.0	09/13/1996			

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc.

Date: 09/13/1996

23107 100th Avenue W

NET Job Number: 96.02782

P.O. Box 1029 Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products

LCS

True Concentration LCS Date Analyte Concentration Found * Recovery Analyzed Lead, ICP 51 102.0 09/12/1996 TCLP - Lead, ICP 0.500 0.51 102.0 09/13/1996

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/13/1996

NET Job Number: 96.02782

P.O. Box 1029 Edmonds, WA 98020-9129

Contact:

Tim Huntting Winlock Wood Products Project:

nalyte	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD
Lead, ICP	52	4.9	50.0	māg∕kg	94.2	51	50.0	mg/kg.	92.2	2.1
TCLP - Lead, ICP	0.50	ND	0.500	mg/L	100.0	0.50	0.500	mg/L	100.0	

NOTE: Matrix Spike Samples may not be samples from this job.

MŠ = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil. = Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Date: 09/13/1996

NET Job Number: 96.02782

Tim Huntting Contact:

Project: Winlock Wood Products

Location: 281001.51

	Blank	Date			
Analyte	Analysis	MDL	Units	Analyzed	
Lead, ICP	ŅĪD 1	. 0	mg/kg	09/12/1996	
ŤCĹP - Lead, ŤCP	ND 0	. 005	mg/L	09/13/1996	

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit. GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- The sample appears to extend to a heavier hydrocarbon range than gasoline.
- The sample appears to extend to a lighter hydrocarbon range than diesel.
- The sample appears to extend to a heavier hydrocarbon range than diesel.
- The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- L The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- P A post diğestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

LANDAU ASSOCIATES, INC. Edmonds, WA (206) 778-0907 FAX (206)778-6409

Chain-of-Custody Record Nº 2102

Project	LUNE WERE	> 2.20	CLENA Job No	. Z's	1401.51						Tes	ting P	aram	eters	FAR RUSHITS TO
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Sample No.	Date	Time	Location		No. of Containers	[h	3/1					//	//		Observations/Comments
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CF-11	9/11/46	الخزازا	5 UNL	عاري		X			1					3	DAY TAT
CZ-12	9/11/90	1(50	FLOUR, S GNO	<u> جار بح</u>	1	X	<u> </u>								DRY TAT
TB-4A	9/11/46	12.20	WADEWA	الفرايان	i	X	X		ļ	ļ				5	DAY TAT (WW ? ROZITY)
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Portland Division -17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

09/16/1996 Date:

NET Account No.: NET Job Number: 36025 96.02798

RECEIVED

SEP 25 1996

LANDAU ASSOCIATES, INC.

Winlock, Wood Products

Location: 281001.51

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Date
Number	Sample Description	Туре	Taken	Received
69453	CF-W4	SOIL	09/11/1996	09/12/1996
69454	Ç F-₩ 5	SOIL	09/11/1996	09/12/1996
69455	CF-W6	SOIL	09/11/1996	09/12/1996
69456	CP-W7	SOIL	09/11/1996	09/12/1996
69457	Ţ <u>B</u> - 7	SOIL	09/12/1996	09/12/1996
69458	TB-7 TCLP	SOIL	09/12/1996	09/12/1996

Approved by:

Marty French NET, INC. Division Manager

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

09/16/1996 Job No.: 96.02798

Page: 2

Project Name: .

Winlock Wood Products

Date Received: 09/12/1996

Sample Number

Sample Number

PARAMETERS

Lead, ICP

ICP/AA Digestion - Soil

69457

Sample Description

Sample Description

METHODS

ĬĊP

6010

TB-7

69453

CF-W4

PARAMETERS ICP/AA Digestion -	Soil	METHODS ICP	RESULTS	REPORT LIMIT	UNITS	DATE_ANALYZED 09/13/1996	<u>PLAG</u>
Lead, ICP		6010	10000	1.0	mg/kg	09/16/1996	
Sample Number 69454	Sample Desc CF-W5	ription					
PARAMETERS		METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion -	Soil	ICP	-	=		09/13/1996	
Lead, ICP		6010	5500	1.0	mg/kg	09/16/1996	
Sample Number	Sample Descr	ription					
69455	CF-W6						
	•						
PARAMETERS		METHODS	RESULTS	REPORT LIMIT	<u>UNITS</u>	DATE ANALYZED	FLAG
ICP/AA Digestion -	Soil	ĨĊP	-	-		09/13/1996	
Lead, ICP		6010	7800	1.0	mg/kg	09/16/1996	
Sample Number	Sample Desc	ription		•			
69456	CF-W7						
DADAMEMED C		MERITORS	DD01# #5	55555			
PARAMETERS	G- : 1	METHODS	RESULTS	REPORT LIMIT	<u>UNITS</u>	DATE ANALYZED	FLAG
ICP/AA Digestion -	5011	ÍĆP	-	-		09/13/1996	
Lead, ICP		6010	3900	1.0	mg/kg	09/16/1996	

REPORT LIMIT

1.0

UNITS

mg/kg

DATE ANALYZED

09/13/1996

09/16/1996

A sample result of $N\bar{D}$ indicates the parameter was Not Detected at the reporting limit.

RESULTS

660

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

09/16/1996 Job No.: 96.02798

Page: 3

Project Name: Date Received:

Winlock Wood Products 09/12/1996

Sample Number

Sample Description

69458

TB-7 TCLP

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Water	ICP	_			09/13/1996	
TCLP EXTRACTION PREP	1311	±			09/11/1996	
TCLP - Lead, ICP	6010	ND	0.05	mg/L	09/16/1996	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Date: 09/16/1996

NET Job Number: 96.02798

Contact: Tim Huntting

Project: Winlock Wood Products

	ccv			
Analyte	True Concentration	Concentration Found	Percent Recovery	Dāte Analyzed
Lead, ICP	0.500	0.50	100.0	09/16/1996
TCLP - Lead, ICP	0.500	0.50	100.0	09/16/1996

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Date: 09/16/1996

NET Job Number: 96.02798

Contact:

Tim Huntting

Project: Winlock Wood Products

> LCS True

50.0

0.500

Analyte Lead, İCP TCLP - Lead, ICP

Concentration LCS Concentration Found * Recovery 48 96.0

100.0

0.50

Analyzed 09/16/1996 09/16/1996

Date

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/16/1996

NET Job Number: 96.02798

P.O. Box 1029 Edmonds, WA 98020-9129

Contact:

Tim Huntting

Project:

Winlock Wood Products

alyte	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD
Lead, ICP TCLP - Lead, ICP	Dil. 0.50	660 ND	50.0 0.500	mg/kg mg/L	100.0	Dil. 0.51	50.0 0.500	mg/kg mg/L	102.Ó	2.0

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Différence

dil.≅ Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/16/1996

NET Job Number: 96.02798

P.O. Box 1029 Edmonds, WA 98020-9129

Tim Huntting Contact:

Project: Winlock Wood Products

Location: 281001.51

	Blank		Date		
Analyte	Analysis	MDL	Units	Analyzed	
Lead, ICP	ND 1	L.O	mg/kg	09/16/1996	
TCLP - Lead, İCP	NTÓ (0.005	mg/L	09/16/1996	

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit. GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- F The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to gample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- W . The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

LANDAU ASSOCIATES, INC. Edmonds, WA (206) 778-0907 FAX (206)778-6409

Chain-of-Custody Record

Nº 2163

Date 9/12/96

(200)																						
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Project Location WINLOCK, WA																						
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Project:

Location:

NATIONAL PROJECT FILE ENVIRONMENTAL TESTING, INC.

Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 Date: 09/18/1996

NET Account No.: 36025 NET Job Number: 96.02818

SEP 27 1996

LANDAU ASSOCIATES, INC.

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	. Date	Date
Number	Sample Description	Ţype	Taken	Received
69564	TB-8	SOIL	09/13/1996	09/13/1996
69565	OS-1	SOIL	09/13/1996	09/13/1996
69566	TB-8 TCLP	SOIL	09/13/1996	09/13/1996
69567	OS-1 TCLP	SOIL	09/13/1996	09/13/1996

Winlock Wood Products

Winlock Wood Products

Approved by:

Marty French

NET, INC. Division Manager

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

09/18/1996 Job No.: 96.02818

Page: 2

UNITS

mg/L

DATE ANALYZED

09/17/1996

09/16/1996

09/17/1996

<u>FLAG</u>

Project Name:

Winlock Wood Products 09/13/1996

Date Received:

PARAMETERS

ĬĊP/AA Digestion - Water

TCLP EXTRACTION PREP

TCLP - Lead, ICP

Sample Number	Sample Descri TB-8	ption					
PARAMETERS ICP/AA Digestion - Lead, ICP	Soil	METHODS ICP 6010	RESULTS - 1400	REPORT LIMIT	<u>UNITS</u> mg/kg	DATE ANALYZED 09/16/1996 09/17/1996	FLAG
Sample Number 69565	Sample Descri	ption					
PARAMETERS ICP/AA Digestion - Lead, ICP	Soil	METHODS ICP 6010	RESULTS - 900	REPORT LIMIT	<u>UNITS</u> mg/kg	DATE ANALYZED 09/16/1996 09/17/1996	<u>FLAG</u>
Sample Number	Sample Descri TB-8 TCLP	ption					
PARAMETERS ICP/AA Digestion - TCLP EXTRACTION PRE TCLP - Lead, İCP		METHODS ICP 1311 6010	RESULTS - 0.14	REPORT LIMIT	UNITS mg/L	DATE ANALYZED 09/17/1996 09/16/1996 09/17/1996	FLAG
Sample Number	Sample Descri OS-1 TCLP	ption		•			

RESULTS

0.05

NĎ

METHODS

ICP

1311

6010

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc.

Date: 09/18/1996

23107 100th Avenue W P.O. Box 1029

NET Job Number: 96.02818

Edmonds, WA 98020-9129

Contact:

Tim Huntting Winlock Wood Products Project:

	CCA						
	True	Concentration	Percent	Date			
Analyte	Concentration	Found	Recovery	Analyzed			
Lead, ICP	0.500	0.48	96.0	09/17/1996			
TCLP - Lead, ICP	0.500	0.50	100.0	09/17/1996			

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

98.0

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/18/1996

Date

Analyzed

09/17/1996

P.O. Box 1029 Edmonds, WA 98020-9129

Lead, İCP

NET Job Number: 96.02818

Contact: Tim Huntting

Project: Winlock Wood Products

LCS

True Concentration LCS
Analyte Concentration Found Recovery

49

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

OUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Landau Associates, Inc.

Date: 09/18/1996

23107 100th Avenue W P.O. Box 1029

NET Job Number: 96.02818

Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products

alyte	Matrix Spike Result	-	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units		MS/MSD RPD
Lead, ICP TCLP - Lead, ICP	Dil. 0.80	1400 0.34	50.0 0.500	mg/kg mg/L	92.0	Dil. 0.86	50.0 0.500	mg/kg mg/L	104.0	1 2 .1

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil.= Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/18/1996

P.O. Box 1029

NET Job Number: 96.02818

Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products Location: Winlock Wood Products

	Blank		Date		
Analyte	Analysis	MDL	Units	Analyzed	
Lead, ICP	ND	1.0	mg/kg	09/17/1996	
TCLP - Lead, ICP	ND	0.005	mg/L	09/17/1996	

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit.

GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

LANDAU ASSOCIATES, INC. Edmonds, WA (206) 778-0907 FAX (206)778-6409

Chain-of-Custody Record Nº 2205

Date___ Page_____ of____

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PROJECT FILE **NATIONAL ENVIRONMENTAL** TESTING, INC.

Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

09/18/1996 Date:

NET Account No.: NET Job Number: 36025 96.02819

RECEIVED

SEP 2 7 1996

LANDAU ASSOCIATES, INC.

Winlock Wood Products Project: Winlock Wood Products Location:

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Dáte
Number	Sample Description	Туре	Taken	Received
69568	TB = 5A	SOIL	09/13/1996	09/14/1996
69569	ĪB-9	SOIL	09/14/1996	09/14/1996
69570	CF-C13	SOIL	09/14/1996	09/14/1996
69571	TB-9 TCLP	SOIL	09/14/1996	09/14/1996

Approved by:

Marty French NET, INC. Division Manager

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

09/18/1996 Job No.: 96.02819

Page: 2

Project Name:

Winlock Wood Products

Date Received:

09/14/1996

Sample Number

Sample Description

69568

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE_ANALYZED	FLAG
ICP/AA Digestion - Soil	ICP	-	=		09/16/1996	
Lead, ICP	6010	1900	1.0	mg/kg	09/16/1996	

Sample Number

Sample Description

69569

TB-9

<u>PARAMETERS</u>	,	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Soil		ICP	-	-	•	09/16/1996	
Lead, ICP		6010	1200	1.0	mg/kg	09/16/1996	

Sample Number

Sample Description

69570

CF-C13

PARAMETERS ICP/AA Digestion - Soil	<u>METHODS</u> ICP	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Lead, ICP	6010	250	1.0	mg/kg	09/16/1996 09/16/1996	

Sample Number

Sample Description

69571

TB-9 TCLP

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Water	ICP	-			09/17/1996	
TCLP EXTRACTION PREP	1311	÷			09/16/1996	
TCLP - Lead, ICP	6010	0.34	0.05	mg/L	09/17/1996	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/18/1996

P.O. Box 1029

NET Job Number: 96.02819

Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products

CCV

True Concentration Percent Date
Analyte Concentration Found Recovery Analyzed

TCLP - Lead, ICP 0.500 0.50 100.0 09/17/1996

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/18/1996

P.O. Box 1029

NET Job Number: 96.02819

Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products

LCS

True

Concentration LCS

Dáte

Analyte Lead, ICP Concentration Found % Recovery 50.0

49

98.0

Analyzed 09/16/1996

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

OUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/18/1996

NET Job Number: 96.02819

P.O. Box 1029 Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products

, alyte	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD
Lead, ICP	50.	2.5	57.	mg/kg	83.6	50.	57.	mg/kg .	83.6	0.0
TCLP - Lead, IČP	0.80	0.34	0.500	mg/L	92.0	0.86	0.500	mg/L	104.0	12.1

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil.= Diluted Out

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029

NET Job Number: 96.02819

Date: 09/18/1996

Edmonds, WA 98020-9129

Contact: Tim Huntting Project: Winlock Wood Products Location: Winlock Wood Products

Analyte	Blank Analysis	MDL	Units	Date Analyzed
Lead, ICP	ND	1.0	mg/kg	09/16/1996
TCLP - Lead, ICP	ND	0.005	mg/L	09/17/1996

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit. GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- Bi This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- F The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- L The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

LANDAU ASSOCIATES, INC. Edmonds, WA (206) 778-0907 FAX (206)778-6409

Chain-of-Custody Record Nº 2392

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Project:

Location:

NATIONAL ENVIRONMENTAL TESTING, INC.

Winlock Wood Products

Winlock Wood Products

Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 Date: 09/19/1996

NET Account No.: NET Job Number: 9

36025 96.02834

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SEP 2 7 1996

LANDAU ASSOCIATES, INC.

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Date
Number	Sample Description	Туре	Taken	Received
69638	TB-10	SOIL	09/16/1996	09/16/1996
69639	TB-10 TCLP	SOIL	09/16/1996	09/16/1996

Approved by;

rty French

NET, INC. Division Manager

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

09/19/1996

Job No.: 96.02834

Page: 2

Project Name:

Winlock Wood Products

Date Received: 09/16/1996

Sample Number

Sample Description

69638

TB-10

PARAMETERS Solids, Total	METHODS 160.3	RESULTS 72	<u>REPORT LIMIT</u> 0.01	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Soil	ICP	=	-		09/17/1996	
Lead, ICP	6010	1,700	1.4	mg/kg d	09/17/1996	

Sample Number

Sample Description

69639 .

TB-10 TCLP

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total	160.3	72	0.01	*	09/19/1996	
ICP/AA Digestion - Water	ICP	-	•		09/18/1996	
TCLP EXTRACTION PREP	1311	-			09/17/1996	
TCLP - Lead, ICP	6010	0.88	0.05	mg/L	09/19/1996	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/19/1996

P.O. Box 1029

Edmonds, WA 98020-9129

NET Job Number: 96.02834

. Contact:

Project:

Tim Huntting Winlock Wood Products

CCV

Concentration Percent Date Analyte Concentration Found Recovery Analyzed

TCLP - Lead, ICP

0.500

0.49

98.0

09/19/1996

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/19/1996

P.O. Box 1029

NET Job Number: 96.02834

Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products

LCS

True Concentration LCS Analyte Concentration Found * Recovery Analyzed Lead, ICP 50.0 44 88.0 09/17/1996 TCLP - Lead, ICP 0.500 0.49 98.0 09/19/1996

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

OUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Landau Associates, Inc.

Date: 09/19/1996

23107 100th Avenue W

NET Job Number: 96.02834

P.O. Box 1029 Edmonds, WA 98020-9129

Tim Huntting Contact:

Project: Winlock Wood Products

(alyte	Matrix Spike Result	Sample Result	Spike Amount	Ųņits	Percent Recovery	MŠĎ Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD ŘŘĎ
Lead, ICP	44	1.6	50.0	mg/kg	84.8	44	50.0	mg/kg	84.8	0.0
TCLP - Lead, ICP	0.49	ND	0.500	mg/L	98.0	0.49	0.500	mg/L	98.0	0.0

 $\dot{\text{NOTE}}\colon$ Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil. = Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/19/1996

P.O. Box 1029

NET Job Number: 96.02834

Edmonds, WA 98020-9129

Contact: Tim Huntting Project: Winlock Wood Products Location: Winlock Wood Products

	Blank			Date
Analyte	Analysis	MDL	Units	Analyzed
Lead, ICP	ND	1.0	mg/Kg	09/17/1996
TCLP - Lead, ÎCP	ND	0.005	mg/L	09/19/1996

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit. GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- F The sample appears to extend to a heavier hydrocarbon range than diesel.
- The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- P . A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

LANDAU ASSOCIATES, INC. Edmonds, WA (206) 778-0907 FAX (206)778-6409

Chain-of-Custody Record

Nº

2393

Date 9/16/96

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Project:

Location:

NATIONAL ENVIRONMENTAL TESTING, INC.

Winlock Wool Products

Winlock Wood Products

PROJECT FILE

Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 Date: 09/19/1996

NET Account No.: 36025 NET Job Number: 96.02856

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LANDAU ASSOCIATES, INC.

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Date
Number	Sample Description	Туре	Taken	Received
69694	CF-C14	SOIL	09/17/1996	09/17/1996
69695	TB-11	SOIL	09/17/1996	09/17/1996
69696	TB-11 TCLP	SOIL	09/17/1996	09/17/1996

Approved by:

Marty French

NET, INC. Division Manager

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

09/19/1996

Job No.: 96.02856

Page: 2

Project Name:

Winlock Wool Products

Date Received:

09/17/1996

Sample Number

Sample Description

69694

CF-C14

PARAMETERS METHODS RESULTS REPORT LIMIT UNITS DATE ANALYZED FLAG ICP/AA Digestion - Soil ÍĊÞ 09/18/1996 Lead, ICP 6010 68 1.0 mg/kg 09/18/1996 M, MŘ, P

Sample Number

Sample Description

69695

TB-11

PARAMETERS METHODS RESULTS REPORT LIMIT UNITS DATE ANALYZED FLAG ICP/AA Digestion - Soil ICP 09/18/1996 Lead, İCP 6010 1400 1.0 mg/kg 09/18/1996

Sample Number

Sample Description

69696 TB-11 TCLP

PARAMETERS METHODS RESULTS REPORT LIMIT UNITS DATE ANALYZED FLAG ICP/AA Digestion - Water ΙCΡ 09/18/1996 TCLP EXTRACTION PREP 1311 09/18/1996 TCLP - Lead, ICP 6010 1.0 0.05 mg/L 09/19/1996

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029

Date: 09/19/1996

NET Job Number: 96.02856

Edmonds, WA 98020-9129

Tim Huntting Contact:

Project: Winlock Wool Products

	CCV			
	True	Concentration	Percent	Date
Analytė	Concentration	Found	Recovery	Analyzed
Lead, ICP	0.500	0.49	98.0	09/18/1996
TCLP - Lead, ICP	0.500	0.49	98.0	09/19/1996

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Métals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 Date: 09/19/1996

NET Job Number: 96.02856

Contact: Tim Hur

Tim Huntting

Project: Winlock Wool Products

LCS

True Concentration LCS Date Analyte Concentration * Recovery Found Analyzed Lead, ICP 50.0 49 98.0 09/18/1996 TCLP - Lead, ICP 0.500 0.49 98.0 09/19/1996

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

OUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Date: 09/19/1996

NET Job Number: 96.02856

Contact: Tim Huntting Project: Winlock Wool Products

alyte	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Ünits	Percent Recovery	MS/MSD RPD	
Léād, ICP	170	68	50.0	mg/kg	204.0	280	50.0	mg/kg	424.0	70.1'	M, MR, P
TČĹP - Lead, ĪCP	0.49	NTD	0.500	mg/L	98.0	0.49	0.500	mg/L	98.0	0.0	

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil.= Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Īnc. 23107 100th Avenue W P.O. Box 1029

NET Job Number: 96.02856

Date: 09/19/1996

Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wool Products Location: Winlock Wood Products

Blank			Date
Analysis	MDL	Units	Analyzed
ND	1.0	mg/kg	09/18/1996
NĪD	0.005	mg/L	09/19/1996
	Analysis	Analysis MDL	Analysis MDL Units ND 1.0 mg/kg

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit.

GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- F The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

LANDAU ASSOCIATES, INC. Edmonds, WA (206) 778-0907 FAX (206)778-6409

Chain-of-Custody Record

2371

Nº

Project Low	ا <u>الميات على والميات</u>	<u>) (</u>	_00 No. 281	100151		Testing Parameters	FAX 12050LTES
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NATIONAL L SW Upper Be Builte #260 PROJECT FILE Bortland, OR 97224 ENVIRONMENTAL TESTING, INC.

Portland Division 17400 SW Upper Boones Ferry Rd.

Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W

09/25/1996 Date: NET Account No.: NET Job Number: 36025

96.02898

P.O. Box 1029 Edmonds, WA 98020-9129

Project:

Winlock Wood Products

Location: 281001.51 001 - 3 tops

LANDAU ASSOCIATED INC

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Date
Number	Sample Description	Туре	Taken	Received
69862	TB-12	SOIL	09/18/1996	09/19/1996
69863	NWP-P1	SOIL	09/19/1996	09/19/1996
69864	OS-2	SOIL	09/19/1996	09/19/1996
69865	TB-12 TCLP	SOIL	09/18/1996	09/19/1996
69866	OS-2 TCLP	SOIL	09/19/1996	09/19/1996

Approved by:

Marty French

NET, INC. Division Manager

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

09/25/1996 Job No.: 96.02898

Page: 2

Project Name: Date Received:

Winlock Wood Products 09/19/1996

Sample Number

Sample Description

69862

TB-12

<u>PARAMETERS</u>	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Soil	ICP	-	÷		09/20/1996	
Lead, ICP	6010	2100	1.0	mg/kg	09/20/1996	

Sample Number

Sample Description

69863

NWP-F1

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	<u>UNITS</u>	DATE ANALYZED	FLAG
ICP/AA Digestion - Soil	ÎCP	-	-		09/20/1996	
Lead, IÇP	6010	700	1.0	mg/kg	09/20/1996	

Sample Number

Sample Description

69864 OS-2

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Soil	ICP	-	-		09/20/1996	
Lead, ICP	6010	780	1.0	mg/kg	09/23/1996	

Sample Number

Sample Description

69865

TB-12 TCLP

PARAMETERS	METHODS	RESULTS	REPORT_LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Water	ICP	-		**	09/23/1996	
TCLP EXTRACTION PREP	1311	-			09/19/1996	
TCLP - Lead, ICP	6010	0.11	0.05	mg/L	09/24/1996	

Sample Number

Sample Description

69866 OS-2 TCLP

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Water	ICP	-			09/23/1996	
TCLP EXTRACTION PREP	1311	-			09/19/1996	
TCLP - Lead, ICP	6010	0.53	0.05	mg/L	09/24/1996	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/25/1996

P.O. Box 1029

NET Job Number: 96.02898

Edmonds, WA 98020-9129

Contact:

Tim Huntting Winlock Wood Products Project:

	CCV			
Analyte	True Concentration	Concentration Found	Percent Recovery	Date Analyzed
Lead, ICP	0.500	0.51	102.0	09/23/1996
TCLP - Lead, ICP	0.500	0.49	98.0	09/24/1996

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Métals recovery limits 80-120%.

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/25/1996

P.O. Box 1029 Edmonds, WA 98020-9129

NET Job Number: 96.02898

Contact:

Tim Huntting

Project:

Winlock Wood Products

LCS

	True	Concentration	LCS	Date
Analyte	Concentration	Found	* Recovery	Analyzed
Lead, ICP	50.0	50	100.0	09/20/1996
TCLP - Lead, ICP	0.500	0.50	100.0	09/23/1996

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

OUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Landau Associates, Inc.

Date: 09/25/1996

23107 100th Avenue W

NET Job Number: 96.02898

P.O. Box 1029

Edmonds, WA 98020-9129

Contact: T

Tim Huntting

Project: Winlock Wood Products

. Nlyte	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Špike Amount	Units	Percent Recovery	MS/MSD ŘPD	
Lead, ICP TCLP - Lead, ICP	94 0.46	95 ND	50.0 0.500	mg/kg mg/L	-2.0 92.0	320 0.46	50.0	mg/kg mg/L	450.0 92.0	201.8 0.0	M,MŘ,P

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil.= Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/25/1996

P.O. Box 1029

NET Job Number: 96.02898

Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products

Location: 281001.51

Analyte	Blank Analysis	MDL	Units	Datë Analyzed
Leād, ICP	ND	1.0	mg/kg	09/20/1996
TCLP - Lead, ICP	ND	0.005	mg/L	09/23/1996

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit.

GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- ${\tt E}$ The sample appears to extend to a lighter hydrocarbon range than diesel.
- The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- L The LCS recovery exceeded control limits. See the LCS page of this report.
- MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

LANDAU ASSOCIATES, INC. Edmonds, WA (206) 778-0907 FAX (206)778-6409

Chain-of-Custody Record

Nº

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NATIONAL PROJECT FIL Fuite #260 PROJECT FIL Fortland, OR 97224 ENVIRONMENTAL TESTING, INC. P

Portland Division 17400 SW Upper Boones Ferry Rd.

Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

09/23/1996

NET Account No.: 36025 NET Job Number: 96.02923

00T - 3 544

LANDAU ASSOCIATE

Project: Winlock Wood Products Location: 281001.51

Sample analysis in support of the project referenced above been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample

Number

Matrix

Date

Date

Sample Description Type Taken Received 69938 CF-C15 SOIL · · 09/20/1996 09/20/1996

Approved by:

Marty French

NET, INC. Division Manager

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

09/23/1996 Job No.: 96.02923

Page: 2

Project Name:

Winlock Wood Products

Date Received: 09/20/1996

Sample Number

Sample Description

69938

CF-C15

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE_ANALYZED	FLAG
Solids, Total	160.3	71	0.01	ŧ	09/23/1996	
WTPH-Diesel (S) PREP	WTPH-D	-	•		09/23/1996	
WTPH-Diesel (S)						
Diesel	WTPH-D	ND	21.	mg/kg d	09/23/1996	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

SURROGATE REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

09/23/1996

Job No.: 96.02923

Page: 3

Project Name:

Winlock Wood Products

Date Received: 09/20/1996

SURROGATES

METHODS RESULTS

DATE ANALYZED FLAG

Sample Number

Sample Description

69938

ĈĒ-Ċ15

o-Terphenyl (Surr.)

WTPH-D 81

09/23/1996

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Date: 09/23/1996

NET Job Number: 96.02923

Tim Huntting Contact:

Project: Winlock Wood Products

Analyte	CCV True Concentration	Concentration Found	Percent Recovery	Date Analyzed
WTPH-Diesel (S) Diesel WTPH-Diesel (S)	402.2	395.2	98.3	09/23/1996
Diesel	402.2	384.6	95.6	09/23/1996

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/23/1996

P.O. Box 1029

NET Job Number: 96.02923

Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products

Location: 281001.51

Analyte		Blank Analysis	MDL	Units	Date Analyzed
WTPH-Diesel	(§)				
Diesel		ND	15	mg/Kg	09/23/1996
o-Terphenyl	(Surr.)	81	-	ŧ	09/23/1996

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit.

GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- The sample appears to extend to a heavier hydrocarbon range than gasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- F The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- A post digestion spike was analyzed, and recoveries are within control limits.
- Detection limits elevated due to sample matrix.
- R. The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

LANDAU ASSOCIATES, INC. Edmonds, WA (206) 778-0907 FAX (206)778-6409

Chain-of-Custody Record

Nº

3063

Page of

Project			Job No		_			\angle			Tes	sting	Para	met	ters
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Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

09/26/1996

NET Account No.: 36025 NET Job Number: 96.02940

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LANDAU //SS.CO:ATTES. INC.

Project: Wonlock Wood Products Location: Winlock Wood Products

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Date	
Number	Sample Description	Type	Taken	Received	
69999	TB-13	SOIL .	09/23/1996	09/23/1996	
70000	TB-13 TCLP	SOIL	09/23/1996	09/23/1996	

Approved by:

NET, INC. Division Manager

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

09/26/1996

Job No.: 96.02940

FLAG

Page: 2

Project Name: Date Received:

Wonlock Wood Products

09/23/1996

Sample Number

Sample Description

69999

TD_13

 PARAMETERS
 METHODS
 RESULTS
 REPORT LIMIT
 UNITS
 DATE ANALYZED

 ICP/AA Digestion - Soil
 ICP
 09/24/1996

 Lead, ICP
 6010
 1000
 1.0
 mg/kg
 09/24/1996

Sample Number

Sample Description

70000

TB-13 TCLP

PARAMETERS METHODS RESULTS REPORT LIMIT UNITS DATE ANALYZED FLAG ICP/AA Digestion - Water ĬĊP 09/24/1996 TCLP EXTRACTION PREP 1311 09/23/1996 TCLP - Lead, ICP 6010 0.41 0.05 mg/L 09/25/1996

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc.

Date: 09/26/1996

NET Job Number: 96.02940

23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Contact:

Tim Huntting

Wonlock Wood Products Project:

	CĊV			
Analyte	True	Concentration	Percent	Date
	Concentration	Found	Recovery	Analyzed
Lead, ICP	0.500	0.49	98.0	09/24/1996
TCLP - Lead, ICP	0.500	0.50	100.0	09/25/1996

 $C\bar{C}V$ - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/26/1996

P.O. Box 1029

NET Job Number: 96.02940

Edmonds, WA 98020-9129

Contact:

Tim Huntting

Project: Wonlock Wood Products

LCS

Analyte

True Concentration

Concentration LCS Found

* Recovery

Date Analyzed

Lead, ICP TCLP - Lead, ICP

50.0 0.500 48 0.51 96.0 102.0 09/24/1996 09/25/1996

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

OUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Lāndau Associates, Inc. 23107 100th Avenue W

Date: 09/26/1996

P.O. Box 1029

NET Job Number: 96.02940

Edmonds, WA 98020-9129

Contact: Tim Huntting Project: Wonlock Wood Products

alyte	Matrix Spike Result	Sample Result	Spike Amount	Ünits	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	ms/msd RPD
Lead, ICP TCLP - Lead, ICP	Ďil. 0.51	1000 ND	50.0 0.500	mg/kğ mg/L	102.0	Dil. 0.50	50.0 0.500	mg/kg mg/L	100.0	2.0

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil. = Diluted Out

QUALITY CONTROL REPORT BLANKS

Date: 09/26/1996

Landau Associates, Inc. 23107 100th Avenue W

P.O. Box 1029 NET Job Number: 96.02940 Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Wonlock Wood Products Location: Winlock Wood Products

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit.

GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- Bl This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- F The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- L The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

LANDAU ASSOCIATES, INC. Edmonds, WA (206) 778-0907 FAX (206)778-6409

Chain-of-Custody Record

N٥

3064

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NATIONAL ENVIRONMENTALOJECT FILE TESTING, INC.

Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

09/27/1996 Date:

NET Account No.: 36025 NET Job Number: 96.02952

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001 - 3 mar

Winlock Wood Products

Location: 281001.51

LANDAU ASSOCIATES, INC.

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Date
Number	Sample Description	Туре	Taken	Received
70036	CF-C16	SOIL	09/23/1996	09/24/1996
70037	TB-13A	SOIL	09/24/1996	09/24/1996
70038	TB-13A TCLP	SOIL	09/24/1996	09/24/1996

Approved by:

Marty French NET, INC. Division Manager

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

09/27/1996

Job No.: 96.02952

Page: 2

Project Name:

Winlock Wood Products

Date Received:

09/24/1996

Sample Number

Sample Description

70036

70037

CF-C16

PARAMETERS METHODS RESULTS REPORT LIMIT UNITS DATE ANALYZED FLAG ICP/AA Digestion - Soil ICP 09/25/1996 Lead, ICP 6010 150 1.0 mg/kg 09/25/1996

Sample Number

Sample Description

TB-13A

 PARAMETERS
 METHODS
 RESULTS
 REPORT LIMIT
 UNITS
 DATE ANALYZED
 FLAG

 ICP/AA Digestion - Soil
 ICP
 09/25/1996
 09/25/1996

 Lead, ICP
 6010
 1000
 1.0
 mg/kg
 09/25/1996

Sample Number

Sample Description

70038 TB-13A TCLP

PARAMETERS METHODS RESULTS REPORT LIMIT UNITS DATE ANALYZED FLAG ICP/AA Digestion - Water ICP 09/26/1996 TCLP EXTRACTION PREP 1311 09/25/1996 ŤĊĹP - Lead, ICP 6010 ND 0.05mg/L 09/26/1996

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Īnc. 23107 100th Avenue W

Date: 09/27/1996

P.O. Box 1029

NET Job Number: 96.02952

Edmonds, WA 98020-9129

Contact: Tim Huntting

Winlock Wood Products Project:

_	CCV			
·	True	Concentration	Percent	Date
Analyte	Concentration	Found	Recovery	Analyzed
Lead, ÏĊP	0.500	0.50	100.0	09/25/1996
Lead, ICP	0.500	0.500	100.0	09/26/1996
TCLP - Lead, ICP	0.500	0.50	100.0	09/25/1996
TCLP - Lead, ICP	0.500	0.50	100.0	09/26/1996

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Date: 09/27/1996

NET Job Number: 96.02952

Contact: Tim Huntting

Project: Winlock Wood Products

LCS

True Concentration LCS Date Analyte Concentration Found * Recovery Analyzed Lead, ICP 50.0 48 96.0 09/25/1996 TCLP - Lead, ICP 0.500 0.49 98.0 09/26/1996

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

OUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Date: 09/27/1996

NET Job Number: 96.02952

Contact:

Project:

Tim Huntting Winlock Wood Products

alyte	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD
Lead, ICP Lead, ICP TCLP - Lead, ICP	Dil.	1000 ND 0.25	50.0 50.0 0.500	mg/kg mg/kg mg/L	92.0	Dil. 0.70	50.0 50.0 0.500	mg/kg mg/kg mg/L	90.0	2.2

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil. = Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W

Date: 09/27/1996

P.O. Box 1029 Edmonds, WA 98020-9129

NET Job Number: 96.02952

Contact: Tim Huntting

Project: Winlock Wood Products

Location: 281001.51

Analyte	Blank Analysis	MDL	Dāte Ünits Analyzed		
Lead, ICP	NĪD	1.0	mgi∕kgi	09/25/1996	
TCLP - Lead, ICP	ND	0.005	mg/L	09/26/1996	

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit.

GC/MS - Sēmi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- The sample appears to extend to a lighter hydrocarbon range than diesel.
- The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- L The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

NET, INC. PORTLAND DIVISION

CUSTOMER REPORTS JOB STATUS REPORT 09/27/1996

JOB NO. RĒPORT MASTER STATUS

96.02952 REPORTS Successful Generation

LANDAU ASSOCIATES, INC. Edmonds, WA (206) 778-0907 FAX (206)778-6409

Chain-of-Custody Record

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Date 1/24/50

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NATIONAL ENVIRONMENTAL TESTING, INC. Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 Date: 10/02/1996

NET Account No.: 36025 NET Job Number: 96.02970

0011 1938

LANDAU ASSOCIATES INC.

Project: Winlock Wood Clean up Location: 281001.51

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample Number	Sample Description	Matrix Type	Date Taken	Date Received
70099	TB-14	SOIL	09/24/1996	09/25/1996
70100	TB-14 TCLP	SOIL	09/24/1996	09/25/1996
70101	CF+C17	SOIL	09/25/1996	09/25/1996

Approved by:

Marty French

NET, INC. Division Manager

ANALYTĪCAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 10/02/1996

Job No.: 96.02970

Page: 2

Project Name:

Winlock Wood Clean up

Date Received:

09/25/1996

Sample Number

Sample Description

70099

TB-14

PARAMETERS Solids, Total	MĒTHODS 160.3	RESULTS 76	REPORT LIMIT	UNITS	DATE ANALYZED 09/30/1996	FLAG
ICP/AA Digestion - Soil	ICP	-	-		09/26/1996	
Lead, ICP	6010	2,400	1.3	mor/kord	09/26/1996	

Sample Number 70100

Sample Description

TB-14 TCLP

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Water	ICP	_			09/27/1996	==
TCLP EXTRACTION PREP	1311	-	·		09/25/1996	
ŤCĹP - Lead, ICP	6010	1.1	0.05	mg/L	09/30/1996	

Sample Number

Sample Description

70101 CF-C17

PARAMETERS Solids, Total WTPH-Diesel (S) PŘĚP WTPH-Diesel (S)	METHODS 160.3 WTPH-D	RESULTS 05	REPORT LIMIT 0.01	UNITS	<u>DATE ANALYZĒD</u> 09/30/1996 09/26/1996	FLAG
Diesel	WTPH-D	20.	18.	mgi∕kg di	09/27/1996	Ë

SURROGATE REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

10/02/1996 Job No.: 96.02970

Page: 3

Project Name:

Winlock Wood Clean up

Date Received: 09/25/1996

SURROGATES

METHODS RESULTS

DATE ANALYZED FLAG

Sample Number

Sample Description

70101

CF-C17

o-Terphenyl (Surr.)

WTPH-D 98

09/27/1996

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/02/1996

NET Job Number: 96.02970

P.O. Box 1029 Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Clean up

Analyte	CCV True Concentration	Concentration Found	Percent Recovery	Date Analyžed
Lead, ICP	0.500	0.50	100.0	09/25/1996
Lead, ICP	0.500	0.500	100.0	09/26/1996
TČLP - Lead, ICP WTPH-Diesel (S)	0.500	0.51	102.0	09/30/1996
Diesel WTPH-Diesel (S)	402.2	383.5	95.4	09/27/1996
Diesel	402.2	398.6	99.1	09/27/1996

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Ländau Associates, Inc. 23107 100th Avenue W

Date: 10/02/1996

P.O. Box 1029

NET Job Number: 96.02970

Edmonds, WA 98020-9129

Contact: Tir

Tim Huntting

Project: Winlock Wood Clean up

LCS

Analyte Lead, ICP TCLP - Lead, ICP
 True
 Concentration
 LCS
 Date

 Concentration
 Found
 * Recovery
 Analyzed

 50.0
 48
 96.0
 09/26/1996

 0.500
 0.51
 102.0
 09/30/1996

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Date: 10/02/1996

NET Job Number: 96.02970

Contact:

Tim Huntting Winlock Wood Clean up Project:

alyte	Matrix Spike Result	Sample Result	Spike Amount	Ųnita	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD
Lead, ĪCP TCLP - Lead, ICP	Dil.	1800 7.3	50.0 0.500	mg/kg mg/L		Dil. Dil.	50.0 0.500	mg/kg mg/L		

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil.= Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029

NET Job Number: 96.02970

Date: 10/02/1996

Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Clean up

Location: 281001.51

	Blank			Date		
Analyte	Analysis	MDL	Units	Analyzed		
Lead, ICP	ND	1.0	mg/kg	09/26/1996		
TCLP, Lead, ICP	ND	0.05	mg/L	09/30/1996		
WTPH-Diesel (S)						
Diesel	ND	15	mg/Kg	09/21/1996		
o-Terphenyl (Surr.)	79	-	*	09/21/1996		
WTPH-Diesel (S)						
Diesel	ND	15	mg/Kg	09/23/1996		
o-Terphenyl (Surr.)	81	-	¥	09/23/1996		
WTPH-Diesel (S)						
Diesel	ND	15	mg/Kg	09/23/1996		
o-Terphenyl (Surr.)	81	- .	*	09/23/1996		
WTPH-Diesel (S)						
Diesel	ND	15	mg/Kg	09/24/1996		
o-Terphenyl (Surr.)	103	-	ŧ	09/24/1996		
WTPH-Diesel (S)						
Diesel	ND	15	mg/Kg	09/27/1996		
o-Terphenyl (Surr.)	94	-	*	09/27/1996		

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit.

GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

QUALITY CONTROL REPORT DUPLICATES

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Date: 10/02/1996

NET Job Number: 96.02970

Contact: Tim Huntting Project: Winlock Wood Clean up

Analyte	Original Analysis	Duplicate Analysis	Units	Ŕ₽D	Date Analyzed	Flag
WTPH-Diesel (S) Diesel WTPH-Diesel (S)	ND	ND	mg/kg		09/23/1996	
Diesel	910	710	mg/kg	24.3	09/25/1996	R

NOTE: Duplicates may not be samples from this job.

RPD - Relative Percent Difference

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- F The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- L The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

LANDAU ASSOCIATES, INC. Edmonds, WA (206) 778-0907 FAX (206)778-6409

Chain-of-Custody Record

Nº

2532

Date 7/2 3/40

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NATIONAL ENVIRONMENTAL TESTING, INC.

Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 Date: 10/07/1996

NET Account No.: 36025 NET Job Number: 96.02982

Damonas, Wi 50020 5125

Project:

Winlock Wood Cleanup

Location: 281001.51

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Date
Number	Sample Description	Type	Taken	Received
70150	TB-15	SOIL	09/26/1996	09/26/1996
70151	TB-15 TCLP	SOIL	09/26/1996	09/26/1996
70152	UW-4	SOIL	09/26/1996	09/26/1996
70153	UW-5	SOIL	09/26/1996	09/26/1996
70154	UW-6	SOIL	09/26/1996	09/26/1996
70155	UW-7	SOIL	09/26/1996	09/26/1996
70156	CF-W8	SOIL	09/26/1996	09/26/1996

Approved by:

Marty French

NET, INC. Division Manager

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

10/07/1996

Job No.: 96.02982

09/27/1996

Page: 2

Project Name: Date Received:

ICP/AA Digestion - Soil

Winlock Wood Cleanup 09/26/1996

Sample Number

Sample Description

70150	TB-15	iperon.					
PARAMETERS		METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total		160.3	76	0.01		09/30/1996	
ICP/AA Digestion -	Soil	ĪCÞ	<u> -</u>	_		09/27/1996	
Lead, ICP		6010	3,900	1.3	mg/kg d		
		•					
Sample Number	Sample Descr	iption					
70151	TB-15 TCLP						
<u>PARAMETERS</u>		METHODS	RESULTS	REPORT_LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion -		ICP	-			09/27/1996	
TCLP EXTRACTION PR	ĒP	1311	-			09/25/1996	
TCLP - Lead, ICP		6010	0.23	0.05	mg/L	09/30/1996	
Sample Number	Sample Descr	iption					
70152	UW-4						
PARAMETERS		METHODS	RESULTS	DEDODE I THIE	·	D100 1111111000	
Solids, Total		160.3	65	REPORT LIMIT	<u>UNITS</u>	DATE ANALYZED	FLAG
ICP/AA Digestion -	Soil	ICP	-	-	•	10/02/1996 09/27/1996	
Lead, ICP	5011	6010	150	1.5	mg/kg d	· · ·	
WTPH-Diesel (S) PRI	EP	WTPH-D	-	÷.3	mg/xg u	10/01/1996	
WTPH-Diesel (S)						10/01/1330	
Diesel		WTPH-D	65.	23.	mq/kq d	10/01/1996	C,F
WTPH-GAS (S)					mg/ng u	10/01/1330	C, F
Dilution Factor			100	_		10/03/1996	
Gasoline		WTPH-G	460	150	mar/kar di	10/03/1996	
					5,5	20, 00, 2550	
Sample Number	Sample Descr	iption					
70153	UW-5						
PARAMETERS		METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total		160.3	70	0.01	*	10/02/1996	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

ICP

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

10/07/1996 Job No.: 96.02982

Päge: 3

Project Name:

Winlock Wood Cleanup 09/26/1996

Date Received: 09/26/1996

Sample Number

Sample Description

70153

ÚW-5

PARAMETERS	METHODS	RESULTS	REPORT_LIMIT	UNITS	DATE ANALYZED	FLAG
Lead, ICP	6010	640	1.4	mg/kg d	09/27/1996	

Sample Number

Sample Description

70154 UW-6

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total	160.3	71	0.01		09/30/1996	
ICP/AA Digestion - Soil	ĪCP	-	7		09/27/1996	
Lead, ICP	6010	510	1.4	mg/kg d	09/27/1996	

Sample Number

Sample Description

70155 UW-7

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total	160.3	66	0.01	*	09/30/1996	
ICP/AA Digestion - Soil	ICP	-	-		09/27/1996	
Lead, ICP	6010	610	1.5	mg/kg d	09/27/1996	

Sample Number

Sample Description

70156 CF-W8

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total	160.3	76	0.01	1	09/30/1996	
ICP/AA Digestion - Soil	ĪĆP	-	-		09/27/1996	
Lead, ICP	6010	870	1.3	mig∕kg di	09/27/1996	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

SURROGATE REPORT

Tim Huntting Landau Associates, Īnc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

10/07/1996 Job No.: 96.02982

Päge: 4

Project Name: Date Received:

Winlock Wood Cleanup 09/26/1996

SURROGATES		METHODS	RESULTS		DATE ANALYZED	PLAG
Sample Number 70152	Sample De UW-4	escription	1			٠
o-Terphenyl (Surr.	•	WTPH-D WTPH-G	133 -	*	10/01/1996 10/03/1996	
4-Bromofluorobenze	ne (Surr.)	WTPH-G	99		10/03/1996	

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/07/1996

P.O. Box 1029

NET Job Number: 96.02982

Edmonds, WA 98020-9129

Contact: Tim Huntting Project: Winlock Wood Cleanup

Analyte	CCV True Concentration	Concentration Found	Percent Récovery	Date Analyzed
Lead, ICP	0.500	0.51	102.0	09/27/1996
TCLP - Lead, ICP	0.500	0.51	102.0	09/30/1996
WTPH-Diesel (S)				
Diesel	402.2	385.5	95.8	10/01/1996
WTPH-Diesel (S)			•	
Diesel	402.2	412.8	102.6	10/01/1996
WTPH-GAS (S)				,,,
Gasoline	2.50	2.63	105.2	10/03/1996

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Date: 10/07/1996

NET Job Number: 96.02982

Contact: Tim Huntting Project: Winlock Wood Cleanup

	LCS				
	Ţŗue	Concentration	LCS		Dațe
Analyte	Concentration	Found	* Recovery	•	Analyzed
Lead, ICP	50.0	50	100.0		09/27/1996
TCLP - Lead, ICP	0.500	0.51	102.0		09/30/1996
WTPH-Diesel (S)					
Diesel	50.28	51	101.4		10/01/1996
WTPH-Diesel (S)					
Diesel	50.28	51	101.4		10/01/1996

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

OUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/07/1996

NET Job Number: 96.02982

P.O. Box 1029 Edmonds, WA 98020-9129

Contact:

Tim Huntting Winlock Wood Cleanup Project:

Analyte	Matrix Spikē Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Ünits	Percent Recovery	MS/MSD RPD
Lead, ICP TCLP - Lead, ICP WTPH-GAS (S) Gasoline	Dil. Dil. 3.34	3000 7.3	50.0 0.500 2.50	mg/kg mg/L mg/Kg	81.6	Dil. Dil.	50.0. 0.500 2.50	mg/kg mg/L mg/Kg	81.6	0.0

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil. = Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/07/1996

P.O. Box 1029

NET Job Number: 96.02982

Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Wihlock Wood Cleanup

Location: 281001.51

No. 2 mg	Blank			Date
Analyte	Analysis	MDL	Units	Analyzed
Lead, ICP	ND	1.0	mg/kg	09/27/1996
TCLP - Lead, ÎCP	ND	0.05	mg/L	09/30/1996
WTPH-Diesel (S)				-
Diesel	ЙĎ	15	mg/Kg	10/01/1996
o-Terphenyl (Surr.)	92	-		10/01/1996
WTPH-Diesel (S)				
Diesel	ND	15	mg/Kg	10/02/1996
o-Terphenyl (Surr.)	104	-	*	10/02/1996
WTPH-GAS (S)				
Gasoline	ND	10	mg/Kg	10/03/1996
aaa-Trifluorotoluene (Surr.)	95	-	*	10/03/1996

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit.
GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should

be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- F The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

LANDAU ASSOCIATES, INC. Edmonds, WA (206) 778-0907 FAX (206)778-6409

Chain-of-Custody Record

Nº 2533

Date 9/ 24/96

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NATIONAL ENVIRONMENTAL TESTING, INC.

Portland Division
17400 SW Upper Boones Ferry Rd.
Suite #260
Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 Date: 10/02/1996

NET Account No.: 36025 NET Job Number: 96.03011

Project: Winlock Wood Products Location: Winlock Wood Products

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Date
Number	Sample Description	Туре	Taken	Received
70289	TB-16 .	SOIL	09/26/1996	09/27/1996
70290	CF-C18	SOIL	09/27/1996	09/27/1996
70291	TB-16 TCLP	SOIL	09/26/1996	09/27/1996

Approved by:

Marty French

NET, INC. Division Manager

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 10/02/1996

Job No.: 96.03011

Page: 2

Project Name:

Winlock Wood Products

Date Received:

09/27/1996

Sample Number

Sample Description

70289

TD - 16

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total	160.3	78	0.01	*	10/02/1996	
ICP/AA Digestion - Soil	ICP	-	-		09/30/1996	
Lead, ICP	6010	3,800	1.3	mg/kg d	09/30/1996	

Sample Number

Sample Description

70290

CF-C18

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total	160.3	82	0.01	ŧ	09/30/1996	
ICP/AA Digestion - Soil	ĪCP	=	-		09/30/1996	
Lead, ĪČP	6010	9,900	1.2	mg/kg d	09/30/1996	

Sample Number 70291 Sample Description

TB-16 TCLP

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total	160.3	78	0.01	ŧ	10/02/1996	
ICP/AA Digestion - Water	ICP	-			10/01/1996	
TCLP EXTRACTION PREP	1311	-			09/30/1996	
TCLP - Lead, ICP	6010	0.82	0.05	mg/L	10/01/1996	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029

Date: 10/02/1996

NET Job Number: 96.03011

Edmonds, WA 98020-9129

Contact:

Tim Huntting

Winlock Wood Products Project:

	CCV			
	True	Concentration	Percent	Date
Analyte	Concentration	Found	Recovery	Analyzed
Lead, ICP	0.500	0.52	104.0	09/30/1996
TCLP - Lead, ICP	0.500	0.50	100.0	10/01/1996

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/02/1996

P.O. Box 1029

NET Job Number: 96.03011

Edmonds, WA 98020-9129

Contact:

Tim Huntting

Project: 1

Winlock Wood Products

ĻĊS

0.500

Analyte Lead, ICP TCLP - Lead, ICP True Concentration LCS
Concentration Found % Recc
50.0 50 100.0

0.50

% Recovery
100.0
100.0

Analyzed 09/30/1996 10/01/1996

Date

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

OUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Landau Associates, Inc.

Date: 10/02/1996

23107 100th Avenue W P.O. Box 1029

NET Job Number: 96.03011

Edmonds, WA 98020-9129

Contact: Tim Huntting Project: Winlock Wood Products

alyte	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MŠ/MSD RPD	
Lead, ICP TCLP - Lead, ICP	Dil. 1.00	9,900 0.52	50.0 0.500	mg/kg mg/Lূ	96.0	Dil. 1.00	50.0 0.500	mg/kg mg/L	96.0	0.0	

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil. = Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/02/1996

P.O. Box 1029 Edmonds, WA 98020-9129 NET Job Number: 96.03011

Contact: Tim Huntting

Project: Winlock Wood Products Location: Winlock Wood Products

	Blank	Blank					
Analyte	Analysis	MDL	Units	Analyzed			
Lead, ICP	ND 1	0	mg/Kg	09/30/1996			
TCLP - Lead, ICP	NTD 0	.005	mg/L	10/01/1996			

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit.

GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- L The LCS recovery exceeded control limits. See the LCS page of this report.
- MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

LANDAU ASSOCIATES, INC. Edmonds, WA (206) 778-0907 FAX (206)778-6409

Chain-of-Custody Record

Nº 2534

Date 1/2-7/46

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NATIONAL ENVIRONMENTAL TESTING, INC.

Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 Date: 10/02/1996

NET Account No.: 36025 NET Job Number: 96.03017

Project: Winlock Wood Products Location: Winlock Wood Products

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample	•	Matrix	Date	Date
Number	Sample Description	Туре	Taken	Received
70334	TB -17	ŠOÏL	09/28/1996	09/30/1996
70335	CF-W9	SOIL	09/28/1996	09/30/1996
70336	CF-W10	SOIL	09/28/1996	09/30/1996
70337	CF-W11	SOIL	09/28/1996	09/30/1996
70338	CF-W12	SOIL	09/28/1996	09/30/1996
70339	OS-3	SOIL	09/28/1996	09/30/1996
70340	TB-17 TCLP	SOIL	09/28/1996	09/30/1996
70341	OS-3 TCLP	SOIL	09/28/1996	09/30/1996

Approved by:

Marty French

NET, INC. Division Manager

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

10/02/1996

Job No.: 96.03017

09/30/1996

DATE ANALYZED

FLAG

mg/kg d 10/01/1996

Page: 2

Project Name:

ICP/AA Digestion - Soil

Lead, ICP

PARAMETERS

70338

Sample Number

Winlock Wood Products 09/30/1996

Date Received:

Sample Number

Sample Description

zambīē vnumber	Sample	Description					
70334	TB -17						
PARAMETERS		METHODS	RESULTS	REPORT LIMIT	UNITS	DATE_ANALYZED	FLAG
Sölidā, Total		160.3	77.	0.01	*	10/02/1996	<u> </u>
ICP/AA Digestion -	Sōil	ICP	_	_		09/30/1996	
Lead, ICP		6010	2,200	1.3	mg/kg d	10/01/1996	
		•			3,3	,,,	
Sample Number	Sample	Description					
70335	CF-W9						
PARAMETERS		METHODS	RESULTS	REPORT_LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total		160.3	80	0.01	•	10/02/1996	
ICP/AA Digestion -	Soil	ÍĆP	-	-		09/30/1996	
Lead, ICP		6010	2,100	1.2	mg∕kgrdi	10/01/1996	
Sample Number	Sample 1	Description	-				
70336	CF-W10						
PARAMETERS		METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total		160.3	78	0.01	*	10/02/1996	
ICP/AA Digestion -	Soil	ICP	-	-		09/30/1996	
Lead, ICP		6010	3,300	1.3	mg/kg d	10/01/1996	
					= -		
Sample Number	Sample I	Description					
70337	CF-W11	•					
PARAMETERS		METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total		160.3	74	0.01	ł	10/02/1996	*
TGD (3.3. D.)							

A sample result of ND indicates the parameter was Not Detected at the reporting limit:

7,700

RESULTS

REPORT LIMIT

ICP

6010

METHODS

Sample Description

CF-W12

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

10/02/1996 Job No.: 96.03017

Page: 3

Project Name:

Winlock Wood Products

Date Received: 09/30/1996

Sample Number

Sample Description

70338 CF-W12

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE_ANALYZED	FLAG
Solids, Total	160.3	80	0.01	*	10/02/1996	
ICP/AA Digestion - Soil	ĨCĥ	-	-		09/30/1996	
Lead, ICP	6010	3,100	1.2	mg/kg d	10/01/1996	

Sample Number

Sample Description

70339 ÖS-3

<u>PARAMETERS</u> Solids, Total	METHODS	RESULTS	REPORT_LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Soil	160.3 ĪCP	78 -	0.01	*	10/02/1996 09/30/1996	
Lead, ICP	6010	2,600	1.3	mg/kg d	10/01/1996	

Sample Number

Sample Description

70340 TB-17 TCLP

PARAMETERS ICP/AA Digestion - Water	METHODS ICP	RESULTS	REPORT LIMIT	<u>UNITS</u>	DATE_ANALYZED	FLAG
TCLP EXTRACTION PREP TCLP - Lead, ICP	13 <u>1</u> 1 6010	3.7	0.05	mg/Ĺ	10/01/1996 09/30/1996 10/01/1996	

Sample Number

Sample Description

70341 OS-3 TCLP

<u>PARAMETERS</u>	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Water	ICP	-			10/01/1996	
TCLP EXTRACTION PREP	1311	-			09/30/1996	
ŤČĹP - Lead, ICP	6010	2.4	0.05	mg/L	10/01/1996	•

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/02/1996

P.O. Box 1029

NET Job Number: 96.03017

Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products

	ccv		•		
	True	Concentration	Percent	Date	
Analyte	Concentration	Found	Recovery	Analyzed	
Lead, ICP	0.500	0.49	98.0	10/01/1996	
TCLP - Lead, ICP	0.500	0.50	100.0	10/01/1996	

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc.

Date: 10/02/1996

Date

Analyzed

09/30/1996

10/01/1996

23107 100th Avenue W P.O. Box 1029

NET Job Number: 96.03017

Edmonds, WA 98020-9129

Contact:

Tim Huntting

Project:

Winlock Wood Products

LCS

True Concentration LCS Analyte Concentration Found * Recovery Lead, ICP 50 100.0 TCLP - Lead, ICP 0.500 0.50 100.0

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

OUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/02/1996

NET Job Number: 96.03017

P.O. Box 1029 Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products

alyte	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD
Lead, ICP TCLP - Lead, ICP	Dil. 1.00	9,900 0.52	50.0 0.500	mg/kg mg/L	96.0	Dil. 1.00	50.0 0.500	mg/kg mg/L	96.0	0.0

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MŠĎ ≅ Matrix Spike Duplicate

RPD = Relative Percent Difference

dil.= Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Date: 10/02/1996

NET Job Number: 96.03017

Contact: Tim Huntting Project: Winlock Wood Products Location: Winlock Wood Products

	Blank		Date			
Analyte	Analysis	MDL	Units	Analyzed		
Lead, ICP	ND .	1.0	mg/Kg	09/30/1996		
ŤČĹP - Ĺead, ICP	ND	0.005	mg/L	10/01/1996		

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit. GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- The sample appears to extend to a lighter hydrocarbon range than diesel.
- F The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- L The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

LANDAU ASSOCIATES, INC. Edmonds, WA (206) 778-0907 FAX (206)778-6409

Chain-of-Custody Record

Nº

2535

Date 1/2 5 /6,6

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NATIONAL ENVIRONMENTAL TESTING, INC. Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 Date: 10/04/1996

NET Account No.: 36025 NET Job Number: 96.03046

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Project: Winlock Wood Products
Location: Winlock Wood Products

LANDAU AUEDUIATES, INC.

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample Matrix Dat	e Date
Number Sample Description Type Tak	en Received
70413 TB-18 SOIL 09/30	/1996 10/01/1996
70414 NE-TP2 SOIL 10/01	/1996 10/01/1996
70415 NE-TP3 SOIL 10/01	/1996 10/01/1996
70416 NE-TP4 ŞOIL 10/01	/1996 10/01/1996
70417 NE-TP5 SOIL 10/01	/1996 10/01/1996
70418 NE-TP6 SOIL 10/01	/1996 10/01/1996
70419 NE-TP6 D1 SOIL 10/01	/1996 10/01/1996
70420 CF-C19 SOIL 10/01	/1996 10/01/1996
70421 CF-C20 SOIL 10/01	/1996 10/01/1996
70422 CF-C21 SOIL 10/01	/1996 10/01/1996
70423 TB-18 TCLP SOIL 09/30	/1996 10/01/1996

Approved by:

Marty French

NET, INC. Division Manager

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

10/04/1996 Job No.: 96.03046

Page: 2

Project Name:

Winlock Wood Products

Date Received: 10/01/1996

Sample Number

Sample Description

70413	TB-18	-		•			
PARAMETERS Solids, Total ICP/AA Digestion - Lead, ICP	Soil	METHODS 160.3 ICP 6010	<u>RESULTS</u> 75 - 1,500	REPORT LIMIT 0.01 -	<u>UNITS</u> % mg/kg d	DATE ANALYZED 10/02/1996 10/02/1996 10/02/1996	FLAG
Sample Number	Sample Descr NE-TP2	iption					
PARAMETERS Solids, Total ICP/AA Digestion - Lead, ICP	Soil	METHODS 160.3 ICP 6010	RESULTS 81 - 590	REPORT LIMIT 0.01 - 1.2	UNITS	DATE ANALYZED 10/02/1996 10/02/1996 10/02/1996	FLAG
Sample Number 70415	Sample Descr NE-TP3	iption					
PARAMETERS Solids, Total ICP/AA Digestion - Lead, ICP	Soil	METHODS 160.3 ICP 6010	RESULTS 76 - 830	REPORT LIMIT 0.01 -	UNITS * mg/kg d	DATE ANALYZED 10/02/1996 10/02/1996 10/02/1996	FLAG
Sample Number	Sample Descr	iption					

70416 NE-TP4

PARAMETERS METHODS RESULTS REPORT LIMIT DATE ANALYZED Sölidā, Total 160.3 77 0.01 10/02/1996 ICP/AA Digestion - Soil ICP 10/02/1996 Lead, ICP 6010 340 1.3 mg/kg d 10/02/1996

Sample Number

Sample Description

70417

NE-TP5

PARAMETERS

RESULTS METHODS REPORT LIMIT UNITS DATE ANALYZED

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 10/04/1996 Job No.: 96.03046

Page: 3

Project Name:

Winlock Wood Products

Date Received: 10/01/1996

Sample Number

Sample Description

70417

NE-TP5

PARAMETERS Solids, Total ICP/AA Digestion = Lead, ICP	Soil	METHODS 160.3 ICP 6010	<u>RESULTS</u> 74 - 350	REPORT LIMIT 0.01 - 1.4	UNITS t mg/kg d	DATE ANALYZED 10/02/1996 10/02/1996 10/02/1996	FLAG
Sample Number 70418	Sample Dego NE-TP6	eription					
PARAMETERS		METHODS	RESULTS	REPORT LIMIT	<u>UNITS</u>	DATE ANALYZED	FLAG

PARAMETERS Solids, Total	METHODS 160.3	RESULTS 72	REPORT LIMIT 0.01	UNITS %	DATE ANALYZED 10/02/1996	FLAG
ICP/AA Digestion - Soil	ĪĊP	-	-		10/02/1996	
Lead, ICP	6010	610	1.4	mg/kg d	10/02/1996	

Sample Number	Sample Description
70419	NE-TP6 D1

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total	160.3	80	0.01	*	10/02/1996	
ICP/AA Digestion - Soil	ICP	-	-		10/02/1996	
Lead, ICP	6010	720	1.2	mg/kg d	10/02/1996	

Sample Number	Sample Description
70420	CF-C19

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE_ANALYZED	FLAG
Solids, Total	160.3	78	0.01	*	10/02/1996	
ICP/AA Digestion - Soil	ICP	-	-		10/02/1996	
Lead, ICP	6010	260	1.3	mg/kg d	10/02/1996	
WTPH-Diesel (S) PREP	WTPH-D	-	-		10/02/1996	
WTPH-Diesel (S)						
Diesel	WTPH-D	ND	19.	mg/kg d	10/02/1996	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

10/04/1996

Job No.: 96.03046

Page: 4

Project Name:

Winlock Wood Products

Date Received:

10/01/1996

Sample Number

Sample Description

	-	•	E					
	70421	ĆF-C20						
	PARAMETERS		METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
	Solids, Total		160.3	72	0.01	* .	10/02/1996	
	ICP/AA Digestion -	Soil	ICP	_	-		10/02/1996	
	Lead, ICP		6010	250	1.4	mg/kg d	10/02/1996	
WTPH-Diesel (S) PREP		WTPH-D	_	÷	J. J	10/02/1996		
	WTPH-Diesel (S)							
Diesel			WIPH-D	35.	21.	mg/kg d	10/02/1996	B1
	Sample Number	Sample Descri	ntion					
	70422	CF-C21	peron					
	, , , , , , , , , , , , , , , , , , , ,	CI CLI						
	PARAMETERS		METHODS	RESULTS	REPORT LIMIT	<u>UNITS</u>	DATE ANALYZED	FLAG
	Solids, Total		160.3	73	0.01	*	10/02/1996	
	ICP/AA Digestion - 3	Soil	ICP	=	-		10/02/1996	
	Lead, ICP		6010	12.	1.4	mg/kg d	10/02/1996	
	WTPH-Diesel (S) PRE	P	WTPH-D	-	•		10/02/1996	
WTPH-Diesel (S)								
Diesel			WTPH-D	ND	20.	mg/kg d	10/02/1996	
	Sample Number	Sample Descri	ption					
	70423	TB-18 TCLP						
	PARAMETERS		METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	EL NC
	ICP/AA Digestion - 1	Water	ICP	+	REPORT HIMIT	DHIID	<u>DATE ANALYZED</u> 10/03/1996	FLAG
	TCLP EXTRACTION PRE		1311	_			10/03/1996	
	TCLP - Lead, ICP	=	6010	0.81	0.05	mg/L	10/02/1996	
			00-0	0.01	0.05	mg/ H	10/04/1330	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

SURROGATE REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 10/04/1996

Job No.: 96.03046

Page: 5

Project Name:

Winlock Wood Products

Date Received: 10/01/1996

SURROGATES

METHODS RESULTS

DATE ANALYZED FLAG

Sample Number

Sample Description

70420

CF-C19

CF-C20

o-Terphenyl (Surr.)

o-Terphenyl (Surr.)

WTPH-D

108

10/02/1996

Sample Number

Sample Description

70421

WTPH-D

WTPH-D

10/02/1996

Sample Number

Sample Description

7042Ž

CF-C21

o-Terphenyl (Surr.)

109

10/02/1996

OUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/04/1996

P.O. Box 1029

NET Job Number: 96.03046

Edmonds, WA 98020-9129

Contact: Tim Huntting Project: Winlock Wood Products

Analyte	CCV True Concentration	Concentration Found	Percent Recovery	Date Analyzed
Lead, ICP TCLP - Lead, ICP WTPH-Diesel (S)	0.500 0.500	0.500 0.49	100.0 98.0	10/02/1996 10/04/1996
Diesel WTPH-Diesel (S)	402.2	393.8	. 97. 9	10/02/1996
Diesel	402.2	387.9	96.4	10/02/1996

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Date: 10/04/1996

NET Job Number: 96.03046

Contact:

Tim Huntting Winlock Wood Products Project:

	LCS			
	True	Concentration	LCS	Date
Analyte	Concentration	Found	* Recovery	Analyzed
Lead, ICP	50.0	50	100.0	10/02/1996
TCLP - Lead, ICP	0.500	0.52	104.0	10/04/1996
WTPH-Diesel (S)				
Diesel	50.28	51	101.4	10/01/1996
WTPH-Diesel (S)				
Diesel	50.28	51	101.4	10/01/1996

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

QUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/04/1996

P.O. Box 1029

NET Job Number: 96.03046

Edmonds, WA 98020-9129

Contact: Tir

Tim Huntting

Project: Winlock Wood Products

alyte	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD
Lead, ICP TCLP - Lead, ÎCP	Dil. 0.50	1,500 ND	50.0 0.500	mg/kg mg/L	100.0	Dil. 0.55	50.0 0.500	mg/kg mg/L	110.0	9.5

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

 $M\bar{S}\bar{D} = Matrix Spike Duplicate$

RPD = Relative Percent Difference

dil.= Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/04/1996

P.O. Box 1029

NET Job Number: 96.03046

Edmonds, WA 98020-9129

Contact: Tim Huntting Project: Winlock Wood Products Location: Winlock Wood Products

	Blank			Date
Analyte	Analysis	MDL	Units	Analyzed
Lead, ICP	ND	1.0	mg/kg	10/02/1996
TCLP - Lead, ICP WTPH-Diesel (S)	ND	0.005	mg/L	10/04/1996
Diesel	ND	15	mg/Kg	10/01/1996
o-Terphenyl (Surr.) WTPH-Diesel (S)	92	-	*	10/01/1996
Diesel	ND	15	mg/Kg	10/02/1996
o-Terphenyl (Surr.)	104	-	*	10/02/1996

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit. GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- The LCS recovery exceeded control limits. See the LCS page of this report.
- MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

LANDAU ASSOCIATES, INC. Edmonds, WA (206) 778-0907 FAX (206)778-6409

Chain-of-Custody Record Nº 2536

Date Tulinic

Project to the second of the points Job No. 25 (Coll)																	
Client Walter Common PRODUCTS																	
Project Location Variable Residence																	
Sampler's Name Control of the second of the																	
Sampler 5 Hallies								[2]	/ /	/ /	/ /	/ /	′ /	/ /		_	
Sample No.	Date	Time	Location	No. of Containers) 						_		Observa	96_0304C	
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NATIONAL ENVIRONMENTAL TESTING, INC.

Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 Date: 10/07/1996

NET Account No.: 36025 NET Job Number: 96.03067

RECEIVE

OCT 1 6 1998

andau Associates, Inc.

Project: Winlock Wood Products Location: Winlock Wood Products

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Date	
Number:	Sample Description '	Туре	Taken	Réceived	
70493	TB-19	SOĪL	10/02/1996	10/02/1996	
70494	CF-C22	SOIL	10/02/1996	10/02/1996	
70495	CF-C23	SOIL	10/02/1996	10/02/1996	
70496	TB-19 TCLP	SOIL .	10/02/1996	10/02/1996	

Approved by:

Marty French

NET, INC. Division Manager

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

10/07/1996

Job No.: 96.03067

Page: 2

Project Name: Winlock Wood Date Received: 10/02/1996

Winlock Wood Products

Sample Number 70493

Sample Description

TB-19

PARAMETERS Solids, Total ICP/AA Digestion - Lead, ICP	Soil	METHODS 160.3 ICP 6010	RESULTS 76 - 8,400	REPORT LÎMÎT 0.01 - 1.3	UNITS t	DATE ANALYZED 10/07/1996 10/03/1996 10/04/1996	FLAG
Sample Number 70494	Sample Descri	ption					

PARAMETERS	METHODS	<u>RĒSULTS</u>	REPORT LIMIT	<u>UNITS</u>	DATE ANALYZED	PLAG
Solids, Total	160.3	80 .	0.01	*	10/07/1996	
ICP/AA Digestion - Soil	ICP	-	•		10/03/1996	
Lead, ICP	6010	3,200	1.2	mg/kg d	10/04/1996	

Sample Number	Sample Description
70495	CF-C23

PARAMETERS Solids, Total	METHODS 160.3	RESULTS	REPORT LIMIT	UNITS	<u>DATE ANALYZED</u> 10/07/1996	FLAG
ICP/AA Digestion - Soil	ICP	-	-	•	10/03/1996	
Lead, ICP	601Ò	10,000	1.4	mg/kg di	10/04/1996	

Sample Number	Sample Description
70496	TB-19 TCLP

PARAMETERS ICP/AA Digestion - Water	METHODS ICP	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
TCLP EXTRACTION PREP	1311	-			10/04/1996 10/03/1996	
TCLP - Lead, ICP	6010	2.0	0.05	mg/L	10/04/1996	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

OUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/07/1996

P.O. Box 1029

NET Job Number: 96.03067

Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products

	CCV			
	True	Concentration	Percent	Date
Analyte	Concentration	Found	Recovery	Analyzed
Lead, ICP	0.500	0.49	98.0	10/04/1996
ŤČLP - Lead, ICP	0.500	0.49	98.0	10/04/1996

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/07/1996

P.O. Box 1029

NET Job Number: 96.03067

Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products

LCS

True Concentration LCS Date Analyte Concentration Found * Recovery Analyzed Lead, ICP 50.0 53 106.0 10/04/1996 TCLP - Lead, İCP 0.500 0.50 100.0 10/04/1996

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

OUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/07/1996

NET Job Number: 96.03067

P.O. Box 1029 Edmonds, WA 98020-9129

Contact:

Tim Huntting Winlock Wood Products Project:

Analyte	Matrix Spike Result	Sample Result	Spike Amount	· - - · ·		MSD Result	MSD Spike Amount	Ünits	Percent Recovery	MS/MSD RPD
Lead, ICP TCLP - Lead, ICP	Dil. 0.50	2600 ND	50.0 0.500	mg/kg mg/L	100.0	Dil. 0.50	50.0 0.500	mg/kg mg/L	100.0	0.0

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spikė Duplicate

RPD = Relative Percent Difference

dil.= Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 Date: 10/07/1996

NET Job Number: 96.03067

Contact: Tim Huntting

Project: Winlock Wood Products Location: Winlock Wood Products

	Blank	Date			
Analyte	Analysis	MDL	Ųnitė	Analyzed	
Lead, ICP	ND	1.0	mg/Kg	10/04/1996	
TCLP - Lead, ICP	ND	0.005	mg/L	10/04/1996	

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit.

GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- The sample appears to extend to a lighter hydrocarbon range than diesel.
- F The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- L The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

LANDAU ASSOCIATES, INC. Edmonds, WA (206) 778-0907 FAX (206)778-6409

Chain-of-Custody Record №

2645

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NATIONAL ENVIRONMENTAL TESTING, INC.

Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 Date: 10/08/1996

NET Account No.: 36025 NET Job Number: 96.03084

Project: Winlock Wood Products Location: Winlock Wood Products

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Date
Number	Sample Description	Туре	Taken	Received
70552	TB-20	SOIL	10/03/1996	10/03/1996
70553	TB-20 TCLP	SOIL	10/03/1996	10/03/1996

Approved by:

Marty French

NET, INC. Division Manager

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

10/08/1996

Job No.: 96.03084

Page: 2

Project Name:

Winlock Wood Products

Date Received:

10/03/1996

Sample Number

Sample Description

70552

TB-20

<u>PARAMETERS</u> Solids, Total METHODS 160.3 RESULTS 76

REPORT LIMIT

1.3

<u>UNITS</u> <u>DATE ANALYZ</u> 10/07/1996 FLAG

ICP/AA Digestion - Soil Lead, ICP ICP 6010 76 -2,900

10/04/1996 mg/kg d 10/07/1996

Sample Number

Sample Description

70553

TB-20 TCLP

PARAMETERS METHODS RESULTS REPORT LIMIT UNITS DATE ANALYZED ICP/AA Digestion - Water ICP 10/04/1996 TCLP EXTRACTION PREP 1311 10/03/1996 TCLP - Lead, ICP 6010 0.86 0.05 mg/L 10/07/1996

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associatés, Inc. 23107 100th Avenue W

Date: 10/08/1996

NET Job Number: 96.03084

P.O. Box 1029 Edmonds, WA 98020-9129

Contact: Tim Huntting Project: Winlock Wood Products

Analyte	CCV True Concentration	Concentration Pound	Percent Recovery	Date Analyzed
Lead, ICP	0.500	0.50	100.0	10/07/1996
TCLP - Lead, ICP	0.500	0.50	100.0	10/07/1996

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/08/1996

P.O. Box 1029

NET Job Number: 96.03084

Edmonds, WA 98020-9129

Contact:

Tim Huntting

Project: Winlock Wood Products

LCS

True Concentration LCS Date Analyte Concentration Found & Recovery Analyzed Lead, ICP 50.0 49 98.0 10/07/1996 TCLP - Lead, ICP 0.500 0.50 100.0 10/04/1996

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

OUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/08/1996

NET Job Number: 96.03084

P.O. Box 1029 Edmonds, WA 98020-9129

Contact:

Tim Huntting Winlock Wood Products Project:

Analyte	Matrix Spike Result	Sample Result	Spike Amount	Ünits	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD
Lead, ICP TCLP - Lead, ICP	Dil. 0.50	2200 ND	50.0 0.500	mg/kg mg/L	100.0	Dil. 0.50	50.0 0.500	mg/kg mg/L	100.0	0.0

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil.= Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/08/1996

P.O. Box 1029

NET Job Number: 96.03084

Edmonds, WA 98020-9129

Tim Huntting Contact:

Project: Winlock Wood Products Location: Winlock Wood Products

	Blank		Date	
Analyte	Analysis	MDL	Units	Analyzed
Lead, ICP	ND	1.0	mg/kg	10/07/1996
TCLP - Lead, ICP	ND	0.005	mg/L	10/04/1996

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit. GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- The sample appears to contain a lighter hydrocarbon than gasoline.
- D . The sample appears to extend to a heavier hydrocarbon range than qasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- F The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

LANDAU ASSOCIATES, INC. Edmonds, WA (206) 778-0907 FAX (206)778-6409

Chain-of-Custody Record

Nº

4482

Date 10/3/96

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Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

10/09/1996 NET Account No.: 36025 NET Job Number: 96.031

Date:

96.03102

Project: Winlock Wood Cleanup Location: Winlock Wood Cleanup RECEIVED

OCT 1 6 1996

Landau Associates, Inc.

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Date
Number	Sample Description	Туре	Taken	Received
70643	CF-C24	SOIL	10/04/1996	10/04/1996
70644	CF-C25	SOIL	10/04/1996	10/04/1996
70645	CF-C26	SOIL	10/04/1996	10/04/1996
70646	TB-21	SOIL	10/04/1996	10/04/1996
70647	TB-21 TCLP	SOIL	10/04/1996	10/04/1996

Approved

NET, INC. Division Manager

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Page: 2

10/09/1996

Job No.: 96.03102

10/07/1996

10/07/1996

mg/kg d 10/07/1996

Project Name:

Winlock Wood Cleanup 10/04/1996

Date Received:

Solids, Total

Lead, İCP

ICP/AA Digestion - Soil

Sample Number	Sample Desc	ription					
70643	CF-C24						
<u>PARAMETERS</u>		METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total		160.3	76	0.01	ŧ	10/07/1996	
ICP/AA Digestion -	Šoil	ĪCP	-	-		10/07/1996	
Lead, ICP		6010	1,700	1.3	mg/kg d	10/07/1996	
O	01- 8						
Sample Number	Sample Desc	ription					
70644	CF-C25						
PARAMETERS		METHODS	RESŪLTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total		160.3	 77	0.01	ŧ	10/07/1996	THUE
ICP/AA Digestion -	Soi1	ICP	_	<u> -</u>	-	10/07/1996	
Lead, ICP		6010	490	1.3	mg/kg d	10/07/1996	
WTPH-Diesel (S) PR	EP	WTPH-D	-	=	373	10/07/1996	
WTPH-Diesel (S)						. 20, 01, 2220	
Diesel		WTPH-D	90.	19.	mar/kard	10/07/1996	Ë,F,R
						,,	_,,,,,
Sample Number	Sample Desc	ription					
70645	CF-C26						
PARAMETERS		METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total		160.3	71	0.01	*	10/07/1996	
ICP/AA Digestion -	Soil	ICP	-	-		10/07/1996	
Lead, İCP		6010	560	1.4	mg/kg d	10/07/1996	
Sample Number	Sample Desc	ription					
70646	TB-21						
PARAMETERS		METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

74

1,900

0.01

1.4

160.3

ICP

6010

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Job No.: 96.03102

10/09/1996

Page: 3

Project Name: Date Received:

Winlock Wood Cleanup 10/04/1996

Sample Number

Sample Description

70647

TB-21 TCLP

<u>PARAMETERS</u>	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Water	ICP	-			10/08/1996	
TCLP EXTRACTION PREP	1311	-			10/07/1996	
ŤĆĹP - Lead, ICP	6010	2.6	0.05	mg/L	10/09/1996	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

SURROGATE REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 10/09/1996 Job No.: 96.03102

Page: 4

Project Name:

Winlock Wood Cleanup

Date Received:

10/04/1996

SURROGATES

METHODS RESULTS

DATE ANALYZED FLAG

Sample Number

Sample Description

70644

CF-C25

o-Terphenyl (Surr.)

WTPH-D

¥

10/07/1996

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/09/1996

NET Job Number: 96.03102

P.O. Box 1029 Edmonds, WA 98020-9129

Contact: Tim Huntting Project: Winlock Wood Cleanup

Analyte	CCV True Concentration	Concentration Found	Percent Recovery	Date Analyzed
Lead, ICP	0.500	0.50	100.0	10/07/1996
TCLP - Léad, ICP	0.500	0.48	96.0	10/09/1996
WTPH-Diesel (S)				
Diesel	402.2	391.1	97.2	10/07/1996
WTPH-Diesel (S)				
Diësel	402.2	403.0	100.2	10/07/1996

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/09/1996

P.O. Box 1029

NET Job Number: 96.03102

Edmonds, WA 98020-9129

Contact:

Tim Huntting

Project: Winlock Wood Cleanup

	LCS			
	True	Concentration	LCS	Date
Analyte	Concentration	Found	* Recovery	Analyzed
Lead, ICP	50.0	48	96.0	10/07/1996
TCLP - Lead, ICP	0.500	0.46	92.0	10/09/1996
WTPH-Diesel (S)				
Diesel	50.28	51	101.4	10/01/1996
WTPH-Diesel (S)				
Diésel	50.28	51	101.4	10/01/1996

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

OUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Landau Associates, Inc.

Date: 10/09/1996

23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

NET Job Number: 96.03102

Contact: Tim Huntting

Project: Winlock Wood Cleanup

Analyte	Matrix Sp <u>i</u> ke Result	Sample Résult	Spike Amount Units		Pércént Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD
Lead, ICP TCLP - Lead, ICP	Dil. 0.46	200 ND	50.0 0.500	mg/kg mg/L	92.0	Dil. 0.44	50.0 0.500	mg/kg mg/L	88.0	4.4

NOTE: Matrix Spike Samples may not be samples from this job.

MS ≠ Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil.= Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/09/1996

P.O. Box 1029

NET Job Number: 96.03102

Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Cleanup Location: Winlock Wood Cleanup

	Blank			Date
Analyte	Analysis	MIDL	Units	Analyzed
Lead, ICP	ИĎ	1.0	mg/kg	10/07/1996
TCLP - Lead, ICP	ND	0.005	mg/L	10/09/1996
WTPH-Diesel (S)				
Diesel	ND	15	mg/Kg	10/01/1996
o-Terphenyl (Surr.)	92	-	*	10/01/1996
WTPH-Diesel (S)				
Diesel	ND	15	mg/Kg	10/02/1996
o-Terphenyl (Surr.)	104	-	*	10/02/1996
WTPH-Diesel (S)				
Diesel	ND	15	mg/Kg	10/07/1996
o-Terphenyl (Surr.)	87	±	ŧ	10/07/1996

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit.

GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

QUALITY CONTROL REPORT DUPLICATES

Landau Associates, <u>Inc.</u> 23107_100th Avenue W

Date: 10/09/1996

NET Job Number: 96.03102

P.O. Box 1029 Edmonds, WA 98020-9129

Tim Huntting Winlock Wood Cleanup Contact: Project:

Original Duplicate Date Analyte Analysis Analysis Units RPD Analyzed Flag WTPH-Diesel (S) 10/07/1996 E,F,R 90. 120 mg/kg 31.7 Diesel

NOTE: Duplicates may not be samples from this job.

RPD - Relative Percent Difference

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- F The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- L The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

LANDAU ASSOCIATES, INC. Edmonds, WA (206) 778-0907 FAX (206)778-6409

Chain-of-Custody Record

Nº

4484

Date C/1/50

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NATIONAL ENVIRONMENTAL ® TESTING, INC.

Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 Date: 10/09/1996

NET Account No.: 36025 NET Job Number: 96.03115

Project:

Winlock Wood Products

Location:

281001.51

landau Apacoldica, **inc**

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample

Number

Sample Description

Matrix

Date

Date

Туре

Taken

Received

70681

CF-C27

SOIL

10/07/1996

10/07/1996

Approved by:

arty rrench

NET, INC. Division Manager

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

10/09/1996

Job No.: 96.03115

Page: 2

Project Name:

Winlock Wood Products 10/07/1996

Date Received:

Sample Number

Sample Description

70681

CF-C27

PARAMETERS Solids, Total WTPH-Diesel (S) PREP WTPH-Diesel (Š)	METHODS 160.3 WTPH-D	RESULTS 79	REPORT LIMIT 0.01	UNITS	DATE ANALYZED 10/08/1996 10/07/1996	FLAG
Diesel WTPH-GAS (S)	WTPH-D	ND	19.	mg/kg đ	10/08/1996	
Dilution Factor Gasoline	WTPH-G	50 250	- 4 .	mg/kg d	10/09/1996 10/09/1996	

SURROGATE REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

10/09/1996 Job No.: 96.03115

Page: 3

Project Name: Date Received:

Winlock Wood Products 10/07/1996

SURROGATES	

DATE ANALYZED FLAG METHODS RESULTS

Sample Number

Sample Description

70681

CF-C27

ō-Terphenyl (Surr.)	WTPH-D	107	ŧ	10/08/1996
aaa-Trifluorotoluene (Surr.)	WTPH-G	114	ŧ	10/09/1996
4-Bromofluorobenzene (Surr.)	WTPH-G	DIL	ŧ	10/09/1996

OUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/09/1996

P.O. Box 1029

NET Job Number: 96.03115

Edmonds, WA 98020-9129

Contact:

Project:

Tim Huntting Winlock Wood Products

Analyte	CCV True Concentration	Concentration Found	Percent Recovery	Date Analyzed
WTPH-Diesel (S)				
Diesel	402.2	404.0	100.4	10/08/1996
WTPH-Diesel (S)				
Diesel	402.2	402.6	100.1	10/08/1996
WTPH-GAS (S)				
Gasoline	560	502	89.6	10/09/1996

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/09/1996

NET Job Number: 96.03115

P.O. Box 1029 Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products

	LCS			
	True	Concentration	LCS	Date
Analyte	Concentration	Found	* Recovery	Analyzed
WTPH-Diesel (S)				
Diesel	50.28	51	101.4	10/01/1996
WTPH-Diesel (S)				
Diesel	50.28	51	101.4	10/01/1996
WTPH-GAS (S)				
Gasoline	493	560	113.6	10/09/1996
			•	

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc.

Date: 10/09/1996

23107 100th Avenue W P.O. Box 1029

NET Job Number: 96.03115

Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products

Location: 281001.51

	Blank			Date
Analyte	Analysis	MDL	Units	Analyzed
WTPH-Diesel (S)				
Diesel	ND	15	mg/Kg	10/01/1996
o-Terphenyl (Surr.)	92	÷	t	10/01/1996
WTPH-Diesel (S)			•	
Diésel	ND	15	mg/Kg	10/02/1996
o-Terphenyl (Surr.)	104	-	*	10/02/1996
WTPH-Diesel (S)				
Diesel	ND	15	mg/Kg	10/07/1996
o-Terphenyl (Surr.)	87	-	*	10/07/1996
WTPH-GAS (S)				
Gasoline	ND	10	mg/Kg	10/09/1996
aaa-Trifluorotoluene (Surr.)	121	-	ŧ	10/09/1996

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit.

GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

QUALITY CONTROL REPORT DUPLICATES

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Date: 10/09/1996

NET Job Number: 96.03115

Contact: Project:

Tim Huntting Winlock Wood Products

Analyte	Original Analysis	Duplicate Analysis	Units	RPD	Date Analyzed	Flag
WTPH-Diesel (S) Diesel WTPH-GAS (S)	90.	120	mg/kg	31.7	10/07/1996	E,F,R
Gasoline WTPH-GAS (S)	ND	ND	mg/Kg		10/04/1996	
Gasoline	ND	ND	mg/Kg		10/09/1996	

NOTE: Duplicates may not be samples from this job.

RPD - Relative Percent Difference

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- F The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- L The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

LANDAU ASSOCIATES, INC. Edmonds, WA (206) 778-0907 FAX (206)778-6409

Chain-of-Custody Record

Νº

4485

Date (6/7/96
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NATIONAL **ENVIRONMENTAL** TESTING, INC.

Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Mr. Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

10/10/1996 Date:

NET Account No.: 36025 NET Job Number: 96.03122

RECEIVED

OCT 1 6 1998

Landau Associates, Inc.

Winlock Wood Products Project: 281001.51

Location:

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Date
Number	Sample Description	Туре	Taken	Received
70696	TB-22	SOIL	10/08/1996	10/08/1996
70697	TB-22-TCLP	SOIL	10/08/1996	10/08/1996

Approved_by:

NET, INC. Division Manager

Mr. Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

10/10/1996

Job No.: 96.03122

Page: 2

Project Name:

Winlock Wood Products

Date Received:

10/08/1996

Sample Number

Sample Description

70696

TB-22

PARAMETERS	<u>METHODS</u>	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total	160.3	76	0.01	ŧ	10/10/1996	
ICP/AA Digestion - Soil	ĪCP	÷	=		10/09/1996	
Lead, ICP	6010	2,200	1.3	mg/kg d	10/09/1996	

Sample Number

Sample Description

70697

TB-22-TCLP

PARAMETERS	<u>METHODS</u>	RESULTS	REPORT LIMIT	UNITS	DATE_ANALYZED	FLAG
ICP/AA Digestion - Water	ΪCΡ	-			10/10/1996	
TCLP EXTRACTION PREP	1311	=			10/07/1996	
TCLP - Lead, ICP	6010	2.0	0.05	mg/L	10/10/1996	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/10/1996

P.O. Box 1029

NET Job Number: 96.03122

Edmonds, WA 98020-9129

Contact: Mr. Tim Huntting Project: Winlock Wood Products

	CCV			
	True	Concentration	Percent	Date
Analyte	Concentration	Found	Recovery	Analyzed
Lead, ICP	0.500	0.48	96.0	10/09/1996
TCLP - Lead, ICP	0.500	0.50	100.0	10/10/1996

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/10/1996

NET Job Number: 96.03122

P.O. Box 1029 Edmonds, WA 98020-9129

Contact: Mr. Tim Huntting

Project: Winlock Wood Products

LCS

	True	Concentration	LCS	Date
Analyte	Concentration	Found	* Recovery	Analyzed
Lead, ICP	50.0	46	92.0	10/09/1996
TCLP - Lead, ICP	0.500	0.48	96.0	10/10/1996

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

QUALITY CONTROL REPORTMATRIX SPIKE/MATRIX SPIKE DUPLICATE

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/10/1996

P.O. Box 1029

NET Job Number: 96.03122

Edmonds, WA 98020-9129

Mr. Tim Huntting Contact:

Project: Winlock Wood Products

Analyte	Matrix Spike Sample Spike Result Result Amount C				Percent Recovery	MSD	MSD Spike Amount	Unite	Percent Recovery	MS/MSD RPD
Maryce	Result	Kesuic	Amount	Units	Recovery	Result	Amount	Offics	Kecovetà	KPD
Lead, ICP	72	22	50.0	mg/kg	100.0	65	50.0	mg/kg	86.0	15.0
TCLP - Léad, ICP	0.48	ND	0.500	mg/L	96.0	0.48	0.500	mg/L	96.0	0.0

NOTE: Matrix Spike Samples may not be samples from this job.

MŠ = Matrix Špike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil.= Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/10/1996

NET Job Number: 96.03122

P.O. Box 1029 Edmonds, WA 98020-9129

Contact: Mr. Tim Huntting

Project: Winlock Wood Products

Location: 281001.51

	Blank		Date			
Analyte	Analysis	MDL	Units	Analyzed		
Lead, İCP	ND	1.0	mg/kg	10/09/1996		
TCLP - Lead, ICP	ND	0.005	mgr/L	10/10/1996		

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit. GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- F The sample appears to extend to a heavier hydrocarbon range than diesel.
- The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- N Manual integration performed on sample for quantification.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- Ü Sample not provided to laboratory in proper sampling container.
- V Analysis was requested for volatiles analysis, sample contained headspace.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.



T13-22

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SCRIPTION	:	MATRIX	GRAB	ĊŌMP	Ξ	AaOH	HNO3	H ₂ SO ₄	отнев	13.	Tech							Which regulations apply: RCRA NPDES Wastewater UST Drinking Water Other None							
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CONDITION OF SAMPLE:

BOTTLES INTACT? Y

SAMPLE ID/DESCRIPTION

FIELD FILTERED? Y

SAMPLE REMAINDER DISPOSAL:

RELINQUISHED BY:

DATE

TIME 310 RECEIVED BY:

RELINQUISHED BY:

DATE

TIME

RECEIVED FOR NET BY:

METHOD OF SHIPMENT

EXBLUTIVE COMPLETE

REMARKS:



NATIONAL PROJECT FILE **ENVIRONMENTAL** TESTING, INC.

Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Date: 10/10/1996

NET Account No.: 36025 NET Job Number: 96.03139

Project:

Winlock Wood Products/Winlock

Location: 281001.51

LANDAU AGGOCIATES, INC.

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample

Matrix

Date

Date

Number Sample Description Type Taken Received 10/09/1996 70742 CF-C28 SOIL 10/09/1996

Approved by:

Marty French

NET, INC. Division Manager

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

10/10/1996

Job No.: 96.03139

Page: 2

Project Name:

Winlock Wood Products/Winlock

Date Received:

10/09/1996

Sample Number

Sample Description

70742

CF-C28

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE_ANALYZED	FLAG
Solids, Total	160.3	82	0.01	ŧ	10/10/1996	
ICP/AA Digestion - Soil	ICP	÷	-		10/10/1996	
Lead, ÎĈP	6010	170	1.2	mg∕kg d	10/10/1996	M, MR, P

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/10/1996

23107 100th Avenue W P.O. Box 1029

NET Job Number: 96.03139

Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products/Winlock

CCV

True Concentration Percent Date
Analyte Concentration Found Recovery Analyzed

Lead, ICP 0.500 0.500 100.0 10/10/1996

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/10/1996

P.O. Box 1029

NET Job Number: 96.03139

Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products/Winlock

LCS

True

Concentration LCS

Date

Analyte

Concentration Found & Recovery

Analyzed

Lead, ICP

50.0 48

10/10/1996

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

OUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Landau Associates, Inc.

Date: 10/10/1996

23107 100th Avenue W

NET Job Number: 96.03139

P.O. Box 1029 Edmonds, WA 98020-9129

Contact:

Tim Huntting

Project: Winlock Wood Products/Winlock

Matrix MSD Spike Sample Spike Percent MSD Spike Percent MS/MSD nalyte Result Result Amount Units Recovery Result Amount Units Recovery Lead, ICP 280 140 50.0 mg/kg 280.0 180 50.0 mg/kg 80.0 111.0 M, MR, P

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil.= Diluted Out

QUALITY CONTROL REPORT

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029

Date: 10/10/1996

NET Job Number: 96.03139

Edmonds, WA 98020-9129

Contact: Tim Huntting

Winlock Wood Products/Winlock Project:

Location: 281001.51

Blank Date Analyte Analysis Units Analyzed Lead, ICP ND mg/kg 10/10/1996 1.0

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit. GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- The LCS recovery exceeded control limits. See the LCS page of this report.
- MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- N Manual integration performed on sample for quantification.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogaté récovery outside control limits. See the surrogate page of the report.
- Ü Sample not provided to laboratory in proper sampling container.
- V Analysis was requested for volatiles analysis, sample contained headspace.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

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PROJECT FILE **ENVIRONMENTAL** TESTING, INC.

Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

10/16/1996

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

NET Account No.: NET Job Number:

Date:

36025 96.03157

Project: Winlock Wood Location: 281001.51

LAMERAL ASSOCIATES, INC.

analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Date
Number	Sample Description	Туре	Taken	Received
70787	TB-23	soir	10/09/1996	10/10/1996
70788	TB-23 TCLP	SOIL	10/09/1996	10/10/1996
70789	LF-C1	SOIL	10/10/1996	10/10/1996
70790	LF-C2	SOIL	10/10/1996	10/10/1996

Approved by:

Marty French

NET, INC. Division Manager

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 10/16/1996

Job No.: 96.03157

Page: 2

Project Name: Date Received:

Winlock Wood 10/10/1996

Sample Number

Sample Description

70787

TB-23

70787 TB-23	3					
<u>PARAMETERS</u>	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total	160.3	79	0.01	¥	10/11/1996	
ICP/AA Digestion - Soil	ICP	-	=		10/11/1996	
Lead, ICP	6010	1,800	1.3	mg/kg d	10/14/1996	•
Sample Number Samp	le Description					
70788 . TB-2:	3 TCLP					
<u>PARAMĒTĒRS</u>	METHODS	<u>RESULTS</u>	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Water	ICP	-			10/15/1996	
TCLP EXTRACTION PREP	1311	-			10/14/1996	
TCLP - Lead, ICP	6010	0.41	0.05	mg/L	10/15/1996	
Sample Number Samp	le Description					
70789 LF-C	1					
PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	<u>FLÀG</u>
Solids, Total	160.3	68	0.01	ŧ	10/11/1996	
TPH-G (S) PREP		-			10/11/1996	
WTPH-Diesel (S) PREP	WTPH-D	-	-		10/11/1996	
WTPH-Diesel (S)						
Diesel	WTPH-D	ND	22.	mg/kg d	10/11/1996	
WTPH-GAS (S)						
Dilution Factor		1	=		10/11/1996	
Gasoline	WTPH-G	60.	4.	mg/kg d	10/11/1996	

Sample Number

Sample Description

70790 LF-C2

<u>PARAMETERS</u>	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE_ANALYZED	FLAG
Solids, Total	160.3	62	0.01	*	10/11/1996	
TPH-G (S) PREP		-			10/11/1996	
WTPH-Diesel (S) PREP	WTPH-D	-	-		10/11/1996	

 $[\]vec{\textbf{A}}$ sample result of ND indicates the parameter was Not Detected at the reporting limit.

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

10/16/1996 Job No.: 96.03157

Page: 3

Project Name: Date Received: Winlock Wood 10/10/1996

Sample Number

Sample Description

70790

LF-C2

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
WTPH-Diesel (S)						
Diesel	WTPH-D	53.	24.	mg/kg d	10/11/1996	F
WTPH-GAS (S)						
Dilution Factor		1	-		10/11/1996	
Gasoline	WTPH-G	35.	5 .	mg/kg d	10/11/1996	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

SURROGATE REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

10/16/1996 Job No.: 96.03157

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Page: 4

Project Name: Date Received: Winlock Wood 10/10/1996

SURROGATES		METHODS	RESULTS		DATE ANALYZED	FLAG
Sample Number	•	scription				
70789	LF-C1					
o-Terphenyl (Surr.)		WTPH-D	53	*	10/11/1996	
aaa-Trifluorotoluene	(Surr.)	WTPH-G	151	ł	10/11/1996	
4-Bromofluorobenzene	(Surr.)	WTPH-G	86	*	10/11/1996	
Sample Number	Sample De	scription				
70790	LF-C2					
o-Terphenyl (Surr.)		WTPH-D	109	*	10/11/1996	
aaa-Trifluorotõluene	e (Surr.)	WTPH-G	116	*	10/11/1996	
4-Bromofluorobenzene	e (Surr.)	WTPH-G	75	*	10/11/1996	

OUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc.

Date: 10/16/1996

NET Job Number: 96.03157

23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Contact: Tim Huntting Project: Winlock Wood

	CCV			
	True	Concentration	Percent	Date
Analyte	Coñcentration	Found	Recovery	Analyzed
tand tob	0.500	0.500	100.0	10/14/1996
Lead, İCP				
Lead, ICP	0.500	0.480	96.0	10/14/1996
TCLP - Lead, ICP	0.500	0.52	104.0	10/15/1996
WTPH-Diesel (S)				
Diesel	402.2	404.8	100.6	10/11/1996
WTPH-Diesel (S)		* F		
Diesel	402.2	409.2	101.7	10/11/1996
WTPH-GAS (S)				
Gasoline	21.5	21,35	99.30	02/15/1993
aaa-Trifluorotoluene (Surr.)	100	108	108.00	02/15/1993

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

96.0

Landau Associates, Inc.

Date: 10/16/1996

Date

Analyzed

10/14/1996

10/14/1996

10/15/1996

23107 100th Avenue W

NET Job Number: 96.03157

P.O. Box 1029 Edmonds, WA 98020-9129

Contact: Tim Huntting Project: Winlock Wood

TCLP - Lead, ICP

True Concentration LCS

Analyte Concentration Pound Recovery

Lead, ICP 50.0 47.0 94.0

Lead, ICP 50.0 47.0 94.0

0.48

0.500

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/16/1996

P.O. Box 1029

NET Job Number: 96.03157

Edmonds, WA 98020-9129

Tim Huntting Contact: Project: Winlock Wood

nalyte	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD	
Lead, ICP TČLP - Lead, ICP	DIL Dil.	1,800 11	63. 0.500	mg/kg mg/L		DIL Dil.	63. 0.500	mg/kg mg/L			Y
WTPH-GAS (S) Gasoline WTPH-GAS (S)	52.6	<10	53.75	mg/Kg	97.90	52	53.75	mg/Kg	96.70	1.20	
Gasoline	41.9	<10	53.75	mg/Kg	78.00	40.4	53.75	mg/Kg	75.20	3.70	

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil. = Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W

NET Job Number: 96.03157

Date: 10/16/1996

P.O. Box 1029 Edmonds, WA 98020-9129

Contact: Tim Huntting Project: Winlock Wood Location: 281001.51

	Blank			Date
Analyte	Analysis	MDL	Units	Analyzed
			4-	
Lead, ICP	ND	1.0	mg/kg	10/14/1996
Lēād, ICP	ND	1.0	mg/kg	10/14/1996
TCLP EXTRACTION PREP	-			10/14/1996
TCLP - Lead, ICP	ND	0.005	mg/L	10/15/1996
WTPH-Diesel (S)				
Diesel	ND	15	ingi∕Kgi	10/11/1996
o-Terphenyl (Surr.)	99	-	ŧ	10/11/1996
WTPH-GAS (S)				. 5
Gasoline	<10	10	mg/Kg	02/15/1993
4-Bromofluorobenzene (Surr.)	99	-	¥	02/15/1993
WTPH-GAS (S)				•
Gasoline	ND	10	mg/Kg	10/11/1996
aaa-Trifluorotoluene (Surr.)	98.5	-	*	10/11/1996
WTPH-GAS (S)				
Gasoline	ND	10	mg/Kg	10/15/1996
aaa-Trifluorotoluene (Surr.)	74	_	*	10/15/1996

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit.

GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

QUALITY CONTROL REPORT DUPLICATES

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/16/1996

NET Job Number: 96.03157

P.O. Box 1029 Edmonds, WA 98020-9129

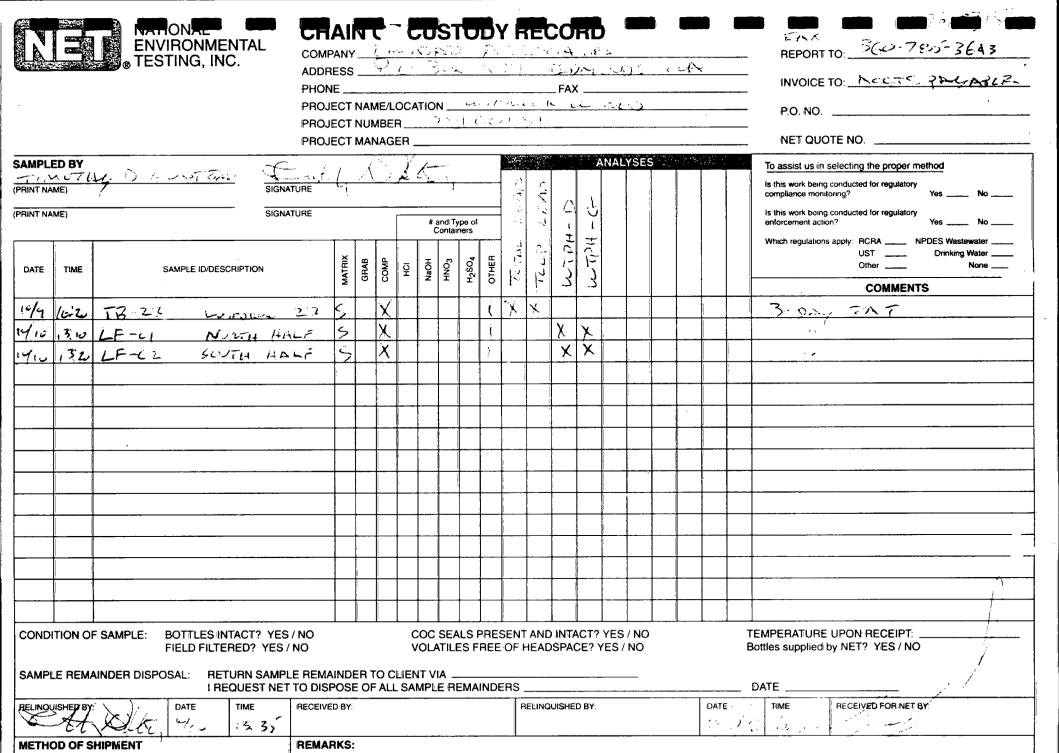
Contact: Tim Huntting Project: Winlock Wood

Analyte	Original Analysis	Duplicate Analysis	Units	RPD	Date Analyzed	Flag
WTPH-Diesel (S) Diesel WTPH-GAS (S)	53.	5 2 .	mg/kg	3.1	10/11/1996	ř
Gasoline WTPH-GAS (S)	ND	ND	mg/Kg		10/15/1996	
Gasoline	60.	72.	mg/kg	17.8	10/11/1996	

NOTE: Duplicates may not be samples from this job.

RPD - Relative Percent Difference

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- F The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- N Manual integration performed on sample for quantification.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- U Sample not provided to laboratory in proper sampling container.
- V Analysis was requested for volatiles analysis, sample contained headspace.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- Z The pattern seen for the parameter being analyzed is not typical.



EXBLUTIVE

1012.62



NATIONAL ENVIRONMENTAL ® TESTING, INC.

Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc.

23107 100th Avenue W

10/15/1996 Date:

NET Account No.: 36025 NET Job Number: 96.03180

P.O. Box 1029 Edmonds, WA 98020-9129

RECEIVED

Project: Location: Winlock Wood Winlock Wood OCT 24 1996

LANDAU ASSOCIATES, INC.

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Date
Number	Sample Description	Туре	Taken	Received
70852	OS = 4	SOIL	10/11/1996	10/11/1996
70853	CF-C29	SOIL	10/11/1996	10/11/1996
70854	CF-C30	SOIL	10/11/1996	10/11/1996
70855	CF-C31	SOIL	10/11/1996	10/11/1996
70856	OS-4 TCLP	SOIL	10/11/1996	10/11/1996

Approved by:

NET, INC. Division Manager

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Page: 2

10/15/1996

Job No.: 96.03180

Project Name: Date Received: Winlock Wood 10/11/1996

Sample Number

Sample Description

70852

70856

PARAMETERS

OS-4 TCLP

70852	OS-4						
PARAMETERS		METHODS	RESULTS	REPORT_LIMIT	UNITS	DATE_ANALYZED	FLAG
Solids, Total		160.3	81	0.01	*	10/14/1996	
ICP/AA Digestion -	Soil	ICP	-	-		10/14/1996	
Lead, ĪCP		6010	1,600	1.2	mg/kg d	10/14/1996	
Sämple Number	Sample Descri	iption					
70853	CF-C29	-					
PARAMETERS		METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAC
Solids, Total		160.3	79	0.01	\$ ON113	DATE ANALYZED 10/14/1996	FLAG
ICP/AA Digestion -	Soil	ICP	-	- -	•	10/14/1996	
Lead, ÎCP	5011	6010	630	1.3	mg/kg d	10/14/1996	
				2.5	mg/mg a	10, 11, 15,0	
Sample Number	Sample Descri	iption					
70854	CF-C30						
PARAMETERS		METHODS	RESULTS	REPORT LIMIT	UNITS	DATE_ANALYZED	FLAG
Solids, Total		160.3	79	0.01	<u> </u>	10/14/1996	
ICP/AA Digestion -	Soil	ICP	-	-		10/14/1996	
Lead, ICP		6010	450	1.0	mg/kg d	10/14/1996	
Sámplé Number	Sample Descri	intion					
70855	CF-C31						
<u>PARAMETERS</u>		METHODS	RESULTS	REPORT LIMIT	UNITS	DATE_ANALYZED	FLAG
Solids, Total		160.3	73	0.01	¥	10/14/1996	
ICP/AA Digestion -	Soil	ICP	-	-		10/14/1996	
Lead, ICP		6010	48.	1.4	mg/kg d	10/14/1996	
Sample Number	Sample Descri	iption					

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

RESULTS

REPORT LIMIT

UNITS

DATE_ANALYZED

FLAG

METHODS

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Page: 3

10/15/1996

Job No.: 96.03180

Project Name: Date Received: Winlock Wood 10/11/1996

Sample Number

Sample Description

70856

OS-4 TCLP

<u>PARAMETERS</u>	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Water	ICP	-			10/15/1996	
TCLP EXTRACTION PREP	1311	=			10/14/1996	
TCLP - Lead, ICP	6010	2.1	0.05	mg/L	10/15/1996	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

OUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/15/1996

P.O. Box 1029

NET Job Number: 96.03180

Edmonds, WA 98020-9129

Contact: Tim Huntting Project: Winlock Wood

Analytė	CCV True Concentration	Concentration Found	Percent Recovery	Date Analyzed
Lead, ICP	0.500	0.500	100.0	10/14/1996
Lead, ICP	0.500	0.480	96.0	10/14/1996
TCLP - Lead, ICP	0.500	0.52	104.0	10/15/1996

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/15/1996

NET Job Number: 96.03180

P.O. Box 1029

Edmonds, WA 98020-9129

Tim Huntting Contact: Project: Winlock Wood

LCS

	True	Concentrati	on ĹĊŚ	Date
Analyte	Concentration	Found	* Recovery	Analyzed
Lead, ICP	50.0	45.0	90.0	10/14/1996
Lead, ICP	50.0	45.0	90.0	10/14/1996
TCLP - Lead, ICP	0.500	0.48	96.0	10/15/1996

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/15/1996

Ţ

P.O. Box 1029

NET Job Number: 96.03180

Edmonds, WA 98020-9129

Contact:

Tim Huntting Winlock Wood Project:

Analyte	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSĎ Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD ŘPĎ	
Lead, ICP TCLP - Lead, ICP	DIL Dil.	450 11	50.0 0.500	mg/kg mg/L		DĪL Dil.	50.0 0.500	mg/kg mg/L			7

NOTE: Matrix Spike Samples may not be samples from this job.

MS - Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil.= Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/15/1996

P.O. Box 1029

NET Job Number: 96.03180

Edmonds, WA 98020-9129

Contact: Tim Huntting Project: Winlock Wood Location: Winlock Wood

	Blank		Date	
Analyte	Analysis	MDL	Units	Analyzed
Lead, İCP	Й	1.0	mg/kg	10/14/1996
Lead, ICP	ND	1.0	mg/kg	10/14/1996
TCLP EXTRACTION PREP	.			10/14/1996
TCLP - Lead, ICP	ND	0.005	mg/L	10/15/1996

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit.

GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrodarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- F The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- N Manual integration performed on sample for quantification.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- U Sample not provided to laboratory in proper sampling container.
- V Analysis was requested for volatiles analysis, sample contained headspace.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

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NATIONAL PROJECT FILE ENVIRONMENTAL TESTING, INC.

Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 Date: 10/16/1996

NET Account No.: 36025 NET Job Number: 96.03200

Edmonds, WA 98020-91

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Project: V

Winlock Wood Products

Location: 281001.51 -

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Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample	<u> </u>	Matrix	Datê - :	Date
Number	Sample Description	Туре	Taken	Received
70915	CF-C32	SOIL	10/14/1996	10/14/1996
70916	CF = C33	SOIL	10/14/1996	10/14/1996
70917	CP-C34	SOIL	10/14/1996	10/14/1996

Approved by:

Marty French

NET, INC. Division Manager

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

10/16/1996

Job No.: 96.03200

Page: 2

Project Name:

Winlock Wood Products

Date Received:

10/14/1996

Sample Number

Sample Description

70915

CF-C32

PARAMETERS Solids, Total	METHODS 160.3	RESULTS 74	REPORT_LIMIT 0.01	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Soil Lead, ICP	ICP 6010	- 130	- 1.4	mg/kg đ	10/15/1996 10/15/1996	

Sample Number

Sample Description

70916

CF-C33

PARAMETERS	METHODS	RESULTS	REPORT_LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total	160.3	68	0.01	*	10/16/1996	•
ĬĊP/ÄA Digestion - Soil	ICP	-	-		10/15/1996	
Lead, ICP	6010	3,200	1.5	mg/kg d	10/15/1996	

Sample Number

Sample Description

70917

CF-C34

PARAMETERS Solids, Total	METHODS 160.3	RESULTS 68	REPORT LIMIT	<u>UNITS</u>	DATE ANALYZED 10/16/1996	FLAG
ICP/AA Digestion - Soil Lead, ICP	ICP 6010	- 3,100	1.5	mg/kg d	10/15/1996 10/15/1996	

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc.

Date: 10/16/1996

23107 100th Avenue W

NET Job Number: 96.03200

P.O. Box 1029 Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products

ĊĊŸ

True

Concentration

Date

Concentration Found

Percent Recovery

Analyzed

Lead, İCP

Analyte

0.500

0.52

104.0

10/15/1996

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/16/1996

P.O. Box 1029

NET Job Number: 96.03200

Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products

LCS

50.0

Concentration LCS

* Recovery

Date

Analyte Lead, ICP Concentration Found

49

98.0

Analyzed 10/15/1996

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

OUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Landau Associates, Inc.

Date: 10/16/1996

23107 100th Avenue W

NET Job Number: 96.03200

P.O. Box 1029

Edmonds, WA 98020-9129

Tim Huntting Winlock Wood Products Contact: Project:

Matrix

MSD

Spike

Sample Spike

Percent

MSD Spike Percent

MS/MSD

alyte

Result

Result

Amount Units

Recovery Result Amount Units Recovery RPD

Lead, ICP

Dil.

210

50.0 mg/kg Dil.

50.0 mg/kg

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil. = Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029

Date: 10/16/1996

NET Job Number: 96.03200

Edmonds, WA 98020-9129

Tim Huntting Contact:

Winlock Wood Products Project:

Location: 281001.51

Blank Date Analyte Analysis MDL Units Analyzed Lead, ICP ND 1.0 mg/kg 10/15/1996

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit. GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- Ë The sample appears to extend to a lighter hydrocarbon range than diesel.
- The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- L The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- N Manual integration performed on sample for quantification.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- U Sample not provided to laboratory in proper sampling container.
- V Analysis was requested for volatiles analysis, sample contained headspace.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.



EPALUTIVA COURIAR

NATIONAL ENVIRONMENTAL TESTING, INC. SAMPLED BY (PRINT NAME) SIGN	PHONE 202 776 297	FAX 200 778-	P.O. NO
DATE TIME SAMPLE ID/DESCRIPTION	GRAB COMP HCI NaOH HNO3	10.7A	Which regulations apply: RCRA INPDES Wastewater UST Drinking Water Other None COMMENTS
10/4 12:30 CF-132 SAWZE DE	14 S X		I-DAY TAT
14/14 12:50 CF-1 33 SOUTHWAL		i x	WAY TAT
14/4 12:00 CF-C33 SOUTHWAL 14/4 12:05 CF-C34 SOUTHWA	5 x	X	1-0A4 TAT
	NO VOLATILES E REMAINDER TO CLIENT VIA	PRESENT AND INTACT? YES / NO FREE OF HEADSPACE? YES / NO	TEMPERATURE UPON RECEIPT: Bottles supplied by NET? YES / NO
RELINQUISHED BY: DATE TIME	TO DISPOSE OF ALL SAMPLE REM. RECEIVED BY:	RELINQUISHED BY:	DATE DATE TIME RECEIVED FOR NET BY:
METHOD OF SHIPMENT	REMARKS:		



NATIONAL ENVIRONMENTAL TESTING, INC.

Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 Date: 10/15/1996

NET Account No.: 36025 NET Job Number: 96.03180

Project: Winlock Wood Location: Winlock Wood

LANDAU ASSOCIACES, MO.

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Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Date
Number	Sample Description	Туре	Taken	Received
70852	OS = 4	SOIL	10/11/1996	10/11/1996
70853	CF-C29	SOIL	10/11/1996	10/11/1996
70854	CF-C30	SOIT	10/11/1996	10/11/1996
70855	CF-C31	SOIL	10/11/1996	10/11/1996
70856	OS-4 TCLP	SOIL	10/11/1996	10/11/1996

Approved by:

Marty French

NET, INC. Division Manager

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 10/15/1996 Job No.: 96.03180

FLAG

Page: 2

Project Name: Date Received: Winlock Wood 10/11/1996

Sample Number

Sample Description

70852

0S-4

PARAMETERS Solids, Total ICP/AA Digestion - Lead, ICP	Soil	METHODS 160.3 ICP 6010	RESULTS 81 - 1,600	REPORT LIMIT 0.01 - 1.2	UNITS t mg/kg d	DATE ANALYZED 10/14/1996 10/14/1996 10/14/1996	FLAG
Sample Number 70853	Sample Descr	iption					
PARAMETERS Solids, Total ICP/AA Digestion - Lead, ICP	Şoil	METHODS 160.3 ICP 6010	<u>RESULTS</u> 79 - 630	REPORT LIMIT 0.01 - 1.3	UNITS * mg/kg d	DATE ANALYZED 10/14/1996 10/14/1996 10/14/1996	FLAG

Sample Number Sample Description
70854 CF-C30

PARAMETERS METHODS RESULTS REPORT LIMIT DATE ANALYZED FLAG Solids, Total 160.3 79 0.01 10/14/1996 ICP/AA Digestion - Soil ĪĊĒ 10/14/1996 Lead, ICP 6010 450 1.0 mg/kg d 10/14/1996

Sample Number Sample Description 70855 CF-C31

PARAMETERS METHODS RESULTS REPORT LIMIT UNITS DATE ANALYZED Solids, Total 160.3 73 0.01 10/14/1996 ICP/AA Digestion - Soil ICP 10/14/1996 Lead, ICP 6010 48. mg/kg d 10/14/1996

Sample Number Sample Description
70856 OS=4 TCLP

PARAMETERS METHODS RESULTS REPORT LIMIT UNITS DATE ANALYZED FLAG

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 10/15/1996 Job No.: 96.03180

Page: 3

Edmonds, WA 98020-9129

Project Name: Date Received:

Winlock Wood 10/11/1996

Sample Number

Sample Description

70856

OS-4 TCLP

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Water	ICP	÷			10/15/1996	
TČLP EXTRACTION PREP	1311	-			10/14/1996	
TCLP - Lead, ICP	6010	2.1	0.05	mg/L	10/15/1996	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc.

Date: 10/15/1996

23107 100th Avenue W

NET Job Number: 96.03180

P.O. Box 1029 Edmonds, WA 98020-9129

Contact: Tim Huntting Project: Winlock Wood

Analyte	CCV True Concentration	Concentration Found	Percent Recovery	Date Analyzed
Lead, ICP	0.500	0.500	100.0	10/14/1996
Lead, ICP	0.500	0.480	96.0	10/14/1996
TCLP - Lead, ICP	0.500	0.52	104.0	10/15/1996

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method.

Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc.

Date: 10/15/1996

23107 100th Avenue W P.O. Box 1029

NET Job Number: 96.03180

Edmonds, WA 98020-9129

Contact: Tim Huntting Project: Winlock Wood

	LCS					
	True	Concentratio	n LCS	Date		
Analyte	Concentration	Found	* Recovery	Analyzed		
Lead, ÍCP	50.0	45.0	90.0	10/14/1996		
Lead, ICP	.50.0	45.0	90.0	10/14/1996		
TCLP - Lead, ICP	0.500	0.48	96.0	10/15/1996		

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

OUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Landau Associates, Inc.

Date: 10/15/1996

NET Job Number: 96.03180

23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Tim Huntting Winlock Wood Contact: Project:

nalyte	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD	
Lead, İCP TCLP - Lead, ICP	DIL Dil.	450 11	50.0 0.500	mg/kg mg/L		DIL Dil.	50.0 0.500	mg/kg mg/L			,

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil.= Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/15/1996

P.O. Box 1029

NET Job Number: 96.03180

Edmonds, WA 98020-9129

Contact: Tim Huntting Project: Winlock Wood Location: Winlock Wood

	Blank			Date	
Analyte	Analysis		Units	Analyzed	
Lead, ICP	ND	1.0	mg/kg	10/14/1996	
Lead, ICP	Ν̈́D	1.0	mg/kg	10/14/1996	
TCLP EXTRACTION PREP	-			10/14/1996	
TCLP - Lead, ICP	ND	0.005	mg/L	10/15/1996	

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit.

GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- F The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- L The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- N Manual integration performed on sample for quantification.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- U Sample not provided to laboratory in proper sampling container.
- V Analysis was requested for volatiles analysis, sample contained headspace.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

		ENVIRON ENVIRON TESTIN	ONMENTAL IG, INC.	CHAI COMPANY ADDRESS PHONE _	Y S	L.		<u>~</u>		<u>ن</u> —	<i></i>	> S	<u> </u>	FAX				 	 REPORT TO: 360 - 785-3
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METHOD OF SHIPMENT

Brautiviz Cossuziz

REMARKS:



NATIONALPROJECT FILE ENVIRONMENTAL TESTING, INC.

Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 . Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 Date: 10/18/1996

NET Account No.: 36025 NET Job Number: 96.03220

PERMINED.

Project:

Winlock Wood Products

Location:

281001.51

LASTA DIABAGULANCO, MO.

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Date
Number	Sample Description	Туре	Taken	Received
70952	TB-24	SOIL	10/15/1996	10/15/1996
70953	TB-24 TCLP	SOIL	10/15/1996	10/15/1996

Approved by

Marty French

NET, INC. Division Manager

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

10/18/1996

Job No.: 96.03220

Page: 2

Project Name:

Winlock Wood Products

Date Received:

10/15/1996

Sample Number

Sample Description

70952

TB-24

PARAMETERS	METHODS .	RESULTS	REPORT LIMIT	UNITS	DATE_ANALYZED	FLAG
Solids, Total	160.3	79	0.01	ŧ	10/18/1996	
ICP/AA Digestion - Soil	IÇP	-	-		10/16/1996	
Lead, ĪCP	6010	3,400	1.3	mg/kg d	10/16/1996	

Sample Number

Sample Description

70953 TB-24 TCLP

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Water	ICP	=			10/17/1996	
TCLP EXTRACTION PREP	1311	-			10/16/1996	
TCLP - Lead, ICP	6010	2.4	0.05	mg/L	10/18/1996	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc.

Date: 10/18/1996

23107 100th Avenue W

NET Job Number: 96.03220

P.O. Box 1029

Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Products

	CCV										
	True	Concentration	Percent	Date							
Analyte	Concentration	Found	Recovery	Analyzed							
Lead, ÎCP	0.500	0.50	100.0	10/16/1996							
·											
TCLP - Lead, ICP	0.500	0.510	102.0	10/18/1996							

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

Landau Associates, Inc.

Date: 10/18/1996

23107 100th Avenue W P.O. Box 1029

Edmonds, WA 98020-9129

NET Job Number: 96.03220

Contact:

Project:

Tim Huntting Winlock Wood Products

<u>L</u>CS

	True	Concentration	LCS	Dațe
Analyte	Concentration	Found	% Recovery	Analyzed
Lead, ICP	50.0	48	96.0	10/16/1996
TCLP - Lead, ICP	0.500	0.490	98.0	10/18/1996

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

OUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/18/1996

NET Job Number: 96.03220

P.O. Box 1029 Edmonds, WA 98020-9129

Contact:

Tim Huntting Winlock Wood Products Project:

	Matrix						MSD			
	Spike	Sample	Spike		Percent	MSD	Spike		Percent	MS/MSD
ilyte	Result	Result	Amount	Units	Recovery	Řesult	Amount	Units	Recovery	RPD
Lead, ICP	Dil.	2700	50.0	mg/kg		Dil.	50.0	mg/kg		
řCLP – Lead, ICP	0.460	ND	0.500	mg/L	92.0	0.460	0.500	mg/L	92.0	0.0

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil. = Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029

Edmonds, WA 98020-9129

Date: 10/18/1996

NET Job Number: 96.03220

Tim Huntting Contact:

Winlock Wood Products Project:

Location: 281001.51

Blank Date Analyte Analysis MDL Units Analyzed Lead, ICP ND 1.0 10/16/1996 mg/kg TCLP - Lead, ICP ND 0.005 10/18/1996 mg/L

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit. GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- F The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- L The LCS recovery exceeded control limits. See the LCS page of this report.
- MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- N Manual integration performed on sample for quantification.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- U Sample not provided to laboratory in proper sampling container.
- V Analysis was requested for volatiles analysis, sample contained headspace.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.



ENVIRONMENTAL TESTING, INC.					COMI	ADDRESS 728 2827 FAX 700 778 600												REPORT	то: <u>360-795-3643</u> то: <u>Лесан</u> -те РАУА	<u>> , </u>					
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NATIONAL PROJECT FILE ENVIRONMENTAL TESTING, INC.

Portland Division 17400 SW Upper Boones Ferry Rd. Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129 Date: 10/21/1996

NET Account No.: 36025 NET Job Number: 96.03243

Project:

Winlock Wood Cleanup

Location: 281001.51

LANDAU ASLIGORATES, INC.

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Date
Number	Sample Description	Туре	Taken	Received
70998	TB-25	SOIL	10/15/1996	10/16/1996
70999	TB-25 TCLP	SOIL	10/15/1996	10/16/1996

Approved by:

"French

NET, INC. Division Manager

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

10/21/1996

Job No.: 96.03243

Page: 2

Project Name: Date Received:

Winlock Wood Cleanup 10/16/1996

Sample Number

Sample Description

70998

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Šolids, Total	160.3	77	0.01	*	10/18/1996	
ICP/AA Digestion - Soil	ICP	-	-		10/17/1996	
Léad, ICP	6010	1,400	1.3	mg/kg d	10/18/1996	

Sample Number

Sample Description

70999

TB-25 TCLP

<u>PARAMETERS</u>	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Water	ICP	-			10/18/1996	
TCLP EXTRACTION PREP	1311	-			10/17/1996	
TCLP - Lead, ICP	6010	0.77	0.05	mg/L	10/18/1996	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

OUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/21/1996

NET Job Number: 96.03243

P.O. Box 1029 Edmonds, WA 98020-9129

Contact:

Tim Huntting Winlock Wood Cleanup Project:

	ccv					
	True	Concentration	Percent	Date		
Analyte	Concentration	Found	Recovery	Analyzed		
Lead, ICP	0.500	0.510	102.0	10/18/1996		
TCLP - Lead, ICP	0.500	0.510	102.0	10/18/1996		

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/21/1996

P.O. Box 1029

NET Job Number: 96.03243

Edmonds, WA 98020-9129

Contact:

Project:

Tim Huntting Winlock Wood Cleanup

LCS

	True	Concentration	LCS	Date
Analyte	Concentration	Found	* Recovery	Analyzed
Lead, ICP	50.0	48.0	96.0	10/18/1996
TCLP - Lead, ICP	0.500	0.49	98.0	10/18/1996

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

QUALITY CONTROL REPORTMATRIX SPIKE/MATRIX SPIKE DUPLICATE

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Date: 10/21/1996

NET Job Number: 96.03243

Contact: Tim Huntting Project: Winlock Wood Cleanup

	Matříx				MSD						
	Spike	Sample	Spike		Percent	MSD	Spike		Percent	MS/MSD	
alyte	Result	Result	Amount	Units	Recovery	Result	Amount	Units	Recovery	Ŕ₽Ď	
Lead, ICP	49.	2.6	54.	mg/kg	85.2	50.	54.	mg/kg	87.2	2.3	
TCLP - Lead, ICP	0.50	ND	0.500	mg/L	100.0	0.49	0.500	mg/L	98.0	1.9	

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil.= Diluted Out

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/21/1996

P.O. Box 1029

NET Job Number: 96.03243

Edmonds, WA 98020-9129

Contact:

Tim Huntting Winlock Wood Cleanup Project:

Location: 281001.51

Blank Date Analyte Analysis MDL Analyzed Units Lead, ICP ND 1.0 mg/Kg 10/18/1996 TCLP - Lead, ICP ND 0.005 mg/L 10/18/1996

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit. GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- Bi This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- F The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- N Manual integration performed on sample for quantification.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar regults. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- U Sample not provided to laboratory in proper sampling container.
- V Analysis was requested for volatiles analysis, sample contained headspace.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

LANDAU ASSUCIATES, INC. Edmonds, WA (206) 778-0907 FAX (206)778-6409

Chain-of-Custody Record

Νo

1002 Date 14 16/42 Page _____ of __/

Testing Parameters Project CLINICA CURO, CLEANING Job No. - STOCK ST Client WINDLOCK WOOD PERDUTS Sampler's Name Tim HUNTTING No. of Containers Observations/Comments Sample No. Location 10/15/92 15:25 16-25 DAT TAP 12202 25 Special Shipment/Handling Method of FIFE LUTIUS CIA CIRE or Storage Requirements Shipment Received by Relinquished by Received by Relinquished by ~ Signature Signature Printed Name Printed Name Company Company Date 10/16/96 Time : 3:45



NATIONAL ENVIRONMENTAL TESTING, INC.

Portland Division 17400 SW Upper Boones Ferry Rd. -Suite #260 Portland, OR 97224

Tel: (503) 624-5449 Fax: (503) 639-6889

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029

10/21/1996 Date:

NET Account No.: 36025 NET Job Number: 96.03266

Edmonds, WA 98020-9129

Project:

Winlock Wood Cleanup

Location:

281001.51

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Date
Number	Sample Description	Туре	Taken	Received
71039	CF-C35	SOIL	10/17/1996	10/17/1996
71040	CF-C36	SOIL	10/17/1996	10/17/1996

Approved by:

Marty French

NET, INC. Division Manager

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

10/21/1996

Job No.: 96.03266

Page: 2

Project Name:

Winlock Wood Cleanup

Date Received:

10/17/1996

Sample Number

Sample Description

71039

CF-C35

PARAMETERS	<u>METHODS</u>	RESULTS	<u>REPORT LIMIT</u>	UNITS	DATE_ANALYZED	FLAG
Solids, Total	160.3	75	0.01	*	10/18/1996	
ICP/AA Digestion - Soil	ICP	-	•		10/18/1996	
Lead, ICP	6010	45.	1.3	mg/kg đ	10/18/1996	

Sample Number

Sample Description

71040

CF-C36

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total	160.3	75	0.01	*	10/18/1996	
ICP/AA Digestion - Soil	ICP	÷	-		10/18/1996	
Lead, ICP	6010	3,200	1.3	mg/kg d	10/18/1996	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/21/1996

P.O. Box 1029

NET Job Number: 96.03266

Edmonds, WA 98020-9129

Contact: Tim Huntting

Winlock Wood Cleanup Project:

ĊĊV

True

Concentration Percent

Date

Analyte

Concentration Found

Recovery

Lead, İCP

0.500

0.510

102.0

10/18/1996

Analyzed

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029

Date: 10/21/1996

NET Job Number: 96.03266

Edmonds, WA 98020-9129

Tim Huntting Contact:

Winlock Wood Cleanup Project:

LCS

True Analyte Concentration

Concentration LCS Found * Recovery

Date Analyzed

Lead, İCP

50.0

50

100.0

10/18/1996

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/21/1996

MS/MSD

NET Job Number: 96.03266

P.O. Box 1029

Edmonds, WA 98020-9129

Contact: Tim Huntting

Winlock Wood Cleanup Project:

Matrix

MSD Spike Sample Spike Percent MSD Spike

alyte Result Řesult Amount Units Recovery Result Amount Units Recovery

Lead, ICP DIL 780 50.0 mg/kg DIL 50.0 mg/kg

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil. = Diluted Out

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W

Date: 10/21/1996

P.O. Box 1029

Edmonds, WA 98020-9129

NET Job Number: 96.03266

Contact:

Tim Huntting

Project:

Winlock Wood Cleanup

Location: 281001.51

Blank

Date

Analyte

Analysis MDL

Analyzed Units

Lead, ICP

1.0

mgi/Kgi 10/18/1996

Advisory Control Limits for Blanks:

Métals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit. GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than qasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- L The LCS recovery exceeded control limits. See the $\hat{L}\hat{C}\hat{S}$ page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- N Manual integration performed on sample for quantification.
- P A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- U Sample not provided to laboratory in proper sampling container.
- V Analysis was requested for volatiles analysis, sample contained headspace.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.

LANDAU ASSUCIATES, INC. Edmonds, WA (206) 778-0907 FAX (206)778-6409

Chain-of-Custody Record

Νō

1003 Date /

Date 1 / 17/96.

Project W	NLUCK	was	C47~ 10b No. 28	51001.5				Z			Tes	ting 1	Para	mete	ers	
Client	NUCLE	ن دب	Day Phopolits		_			\mathcal{A}								FAX RESULTS TO
			ck, wa			,		7	/ /	/ ,	Ι,	/ /	/ /	/ ,	///	360 785-3643
] /									12 3 Tanks
Sampler's Nam	18 <u>\ </u>	>=(+4)	5 HUNTTING					/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	
Sample No.	Date	Time	Location	No. of Containers		7	_	_						_		Observations/Comments
CF-C35	10/17	13,0	SOUTH FLUIT/WALL	/	×										1-2	Ay FAT
CF -= 30	10/17		G. WALL Sun Ber laying	/	X							_			1-12	Ay TAT
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Date 19/17/96	Time_(1225	Date	Time			Da	ate _				Tim	ne			DateTime

American Environmental Network, Inc.

Tim Huntting Landau Associates, Īnc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Project:

Winlock Wood Cleanup

Location: 281001.51

Date: 11/06/1996

AEN Account No.: 36025 AEN Job Number: 96.03365

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LANDAU ASSOCIATES, INC.

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample		Matrix	Date	Date
Number	Sample Description	Type	Taken	Received
71411	LF-C3	SOIL	10/23/1996	10/24/1996
71412	LF=C4	SOIL	10/23/1996	10/24/1996

Approved by:

Marty French AEN, INC.

ANALYTICAL REPORT

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

11/06/1996

Job No.: 96.03365

Page: 2

Project Name:

Winlock Wood Cleanup 10/24/1996

Date Received:

Sample Number

Sample Description

71411

LF-C3

PA	RAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE_ANALYZED	FLAG
So	lids, Total	160.3	81	0.01	ŧ	10/28/1996	
TP.	H-G (S) PREP		-			10/24/1996	
WŢ	PH-Diesel (S) PREP	WTPH-D	<u> </u>	· •		10/25/1996	
WT	PH-Diesel (S)						
Di	esel	WTPH-D	22.	18.	mg/kg d	10/25/1996	Е
WT	PH-GAS (S)				37 1.53 9	-0,40,100	_
	lution Factor		20	_		11/05/1996	
	soline	WTPH-G	940	74.	(1 3		
Ga	PO11116	WIPH-G	940	74.	mg/kg d	11/05/1996	
Sai	mple Number Sample Descri	ption					
	412 LF-C4	P 010.1					
• •							
PA	RAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
So	lids, Total	160.3	78	0.01	*	10/28/1996	
TPI	H-G (S) PREP		_		-	10/24/1996	
	PH-Diesel (S) PREP	WTPH-D		_		10/25/1996	
	PH-Diesel (S)	WIFN-D	-	•		10/25/1996	
	··· ··· · · · · · · · · · · · · · · ·				_		
	esel	WTPH-D	26.	19.	mg/kgrd.	10/25/1996	E
	PH-GAS (S)						
Ďi	lution Factor		20	-		11/05/1996	
Gas	soline	WTPH-G	950	77.	mg/kg d	11/05/1996	

SURROGATE REPORT

11/05/1996

Tim Huntting Landau Associates, Inc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

11/06/1996 Job No.: 96.03365

Page: 3

Project Name: Winlock Wood Cleanup Date Received: 10/24/1996

4-Bromofluorobenzene (Surr.) WTPH-G DIL

SURROGATES		METHODS	RESULTS		DATE ANALYZED	FLAG
· · · • • · · ·	Sample De	escription	ı			
o-Terphenyl (Surr.) aaa-Trifluorotoluene 4-Bromofluorobenzene	, ,	WTPH-D WTPH-G WTPH-G	72 90 DīL	\$ \$	10/25/1996 11/05/1996 11/05/1996	
•	Sample De LF-C4	escription				
o-Terphenyl (Surr.)	(Surr.)	WTPH-D WTPH-G	84 91	* *	10/25/1996 11/05/1996	

QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Landau Associates, Inc. 23107 100th Avenue W

Date: 11/06/1996

P.O. Box 1029

Job Number: 96.03365

Edmonds, WA 98020-9129

Contact:

Tim Huntting Winlock Wood Cleanup Project:

Analyte	CCV True Concentration	Concentration Found	Percent Recovery	Date Analyzed
WTPH-Diesel (S)				
Diesel	402.9	409.0	101.5	10/25/1996
WTPH-Diesel (S)				
Diesel	402.9	402.6	99.9	10/25/1996
WTPH-GAS (S)				
Gasoline	14.0	13.2	94.3	11/05/1996
WTPH-GAS (S)				
Gasoline	14.0	14.4	102.9	11/05/1996

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method. Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Landau Associates, Inc. 23107 100th Avenue W

Date: 11/06/1996

P.O. Box 1029

Job Number: 96.03365

Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Cleanup

LCS

True

Concentration LCS

* Recovery

Date Analyzed

Analyte Diesel

WTPH-Diesel (S)

50

52

Concentration Found

104.0

10/24/1996

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method. Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

QUALITY CONTROL REPORT BLANKS

Landau Associates, Inc. 23107 100th Avenue W

Job Number: 96.13365

Date: 11/06/1996

P.O. Box 1029 Edmonds, WA 98020-9129

Contact: Tim Huntting

Project: Winlock Wood Cleanup Location: 281001.51

	Blank		Ďate			
Analyte	Analysis	MDL	Units	Analyzed		
WTPH-Diesel (S)						
Diesel	ND	15	mg/Kg	10/24/1996		
o-Terphenyl (Surr.)	74	13	ng/kg ₹			
	/4	-	•	10/24/1996		
WTPH-Diesel (S)						
Diesel	ND,	15	mg/Kg	10/25/1996		
o-Terphenyl (Surr.)	75	-	¥	10/25/1996		
WTPH-Diesel (S)						
Diesel	ND	15	mg/Kg	10/30/1996		
o-Terphenyl (Surr.)	76	-	¥	10/30/1996		
WTPH-GAS (S)						
Gasoline	ND	10	mg/Kg	10/21/1996		
aaa-Trifluorotoluene (Surr.)	106	-	*	10/21/1996		
WTPH-GAS (S)						
Gasoline	ND	10	mg/Kg	10/22/1996		
aaa-Trifluorotoluene (Surr.)	64	-	*	10/22/1996		
WTPH-GAS (S)	•					
Gasoline	ND	10	mg/Kg	11/05/1996		
aaa-Trifluorotoluene (Surr.)	92	-	*	11/05/1996		

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit. GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for pithalates which should be less than 5 times the reporting limit.

QUALITY CONTROL REPORT DUPLICATES

Landau Associates, Īnc. 23107 100th Avenue W P.O. Box 1029 Edmonds, WA 98020-9129

Date: 11/06/1996

Job Number: 96.03365

Contact:

Tim Huntting Winlock Wood Cleanup Project:

Analyte	Öriginal Analysis	Duplicate Analysis	Units	RPD	Date Analyzed	Flag
WTPH-Diesel (S)						
Diesel	ИĎ	ND	mg/kg		10/24/1996	
WTPH-Diesel (S)						
Diesel	26.	22.	mg/kg	16.2	10/25/1996	E
WTPH-Diesel (S)						
Diesel	110	110	mg/kg	6200.0	10/30/1996	F,R
WTPH-GAS (S)				syp.		
Gasoline	ND	ND	mg/Kg	O*	10/21/1996	
WTPH-GAS (S)						
Gasoline	ND	ND	mg/Kg		10/30/1996	
WTPH-GAS (S)						
Gasoline	940	830	mg/kg	12.6	11/05/1996	

NOTE: Duplicates may not be samples from this job.

RPD - Relative Percent Difference

- A This sample does not have a typical gasoline pattern.
- B1 This sample does not have a typical diesel pattern.
- B The blank exhibited a positive result greater than the reporting limit for this compound.
- C The sample appears to contain a lighter hydrocarbon than gasoline.
- D The sample appears to extend to a heavier hydrocarbon range than gasoline.
- E The sample appears to extend to a lighter hydrocarbon range than diesel.
- F The sample appears to extend to a heavier hydrocarbon range than diesel.
- G The positive result for gasoline is due to single component comtamination.
- H The gasoline elution pattern for the sample is not typical.
- I The oil pattern for this sample is not typical.
- J The result for this compound is an estimated concentration.
- L The LCS recovery exceeded control limits. See the LCS page of this report.
- M MS and/or MSD percent recovery exceeds control limits.
- MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.
- N Manual integration performed on sample for quantification.
- A post digestion spike was analyzed, and recoveries are within control limits.
- Q Detection limits elevated due to sample matrix.
- R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
- SR Surrogate recovery outside control limits. See the surrogate page of the report.
- U Sample not provided to laboratory in proper sampling container.
- V Analysis was requested for volatiles analysis, sample contained headspace.
- W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
- X Sample was analyzed outside recommended holding times.
- Y The result for this parameter was greater than the TCLP regulatory limit.
- The pattern seen for the parameter being analyzed is not typical.



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Landau Associates, Inc.

23107 - 100th Ave. W., P.O. Box 1029

Edmonds, WA 98020-9129

Project: WINLOCK

Project Number: 281001.31

Project Manager: Tim Hunting

Sampled: 8/19/97

Received: 8/19/97

Reported: 9/17/97 09:09

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	_Date_Sampled
MW-4	B708321-01	Water	8/19/97
MW-1	B708321-02	Water	8/19/97
MW-2	B708321-03	Water	8/19/97
MW-3	B708321-04	Water	8/19/97

North Creek Analytical, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document.

This analytical report must be reproduced in its entirety.





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PORTLAND = (503) 643-9200 = FAX 644-2202

Landau Associates, Inc.

23107 - 100th Ave. W., P.O. Box 1029

Edmonds, WA 98020-9129

Project:

Project: WINLOCK

Project Number: 281001.31

Project Manager: Tim Hunting

Sampled: 8/19/97

Received: 8/19/97

Reported: 9/17/97 09:09

Diesel Hydrocarbons (C12-C24) by WTPH-D North Creek Analytical - Bothell

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes
AADU 4							<u>-</u>	
<u>MW-4</u>			<u>B7083</u>	<u> 21-01</u>			<u>Water</u>	
Diesel Range Hydrocarbons	0870578	8/20/97	8/21/97	•	0.250	NĎ	mg/l	
Surrogate: 2-FBP	- ii	"	"	50.0-150		76.1	%	
<u>MW-1</u>			B7083	<u>21-02</u>			<u>Water</u>	
Diesel Range Hydrocarbons	0870578	8/20/97	8/21/97		0.250	ND	mg/l	
Surrogate: 2-FBP	"	,, -	"	50.0-150		78.6	%	
<u>MW-2</u>			B7083	21-03			<u>Water</u>	
Diesel Range Hydrocarbons	0870578	8/20/97	8/21/97		0.250	ND	mg/l	
Surrogate: 2-FBP	n	"	"	50.0-150		74.6	%	
<u>MW-3</u>			B7083	21-04			<u>Water</u>	
Diesel Range Hydrocarbons	0870578	8/20/97	8/21/97		0.250	ND	mg/l	
Surrogate: 2-FBP	"	"	"	50.0-150		68.1	%	

North Creek Analytical, Inc.

*Refer to end of report for text of notes and definitions





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PORTLAND • (503) 643-9200 • FAX 644-2202

Landau Associates, Inc. 23107 - 100th Ave. W., P.O. Box 1029 Edmonds, WA 98020-9129

Project: WINLOCK Project Number: 281001.31

Project Manager: Tim Hunting

Sampled: 8/19/97

Received: 8/19/97

Reported: 9/17/97 09:09

Total Metals by EPA 6000/7000 Series Methods North Creek Analytical - Bothell

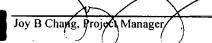
	Batch	Date	Date	Specific	Reporting			
Analyte	Number	Prepared	Analyzed	Method	Limit	Result	Units	Notes*
MW-4			B70832	21_01			Water	
Antimony	0970032	9/2/97	9/5/97	EPA 6010A	0.100	ND	mg/l	
Beryllium	"	01 = 1 7 1	9/8/97	EPA 6010A	0.00500	ND	mg/t	
Cadmium	U		9/5/97	EPA 6010A	0.0050	ND	**	
Chromium	и	11	9/5/97	EPA 6010A	0.0100	ND	**	
Copper	11	"	"	EPA 6010A	0.0300	ND	H	
Nickel	10	**	"	EPA 6010A	0.0300	ND	*1	
Thallium	II .	11	H - 1	EPA 6010A	0.200	ND	н	
Zinc	11	н	н	EPA 6010A	0.0200	0.0362	11	
Arsenic	Ó870783	8/27/97	9/11/97	EPA 7060A	0.00400	ND	"	
Lead	H	"	8/28/97	EPA 7421	0.00200	0.00383	н	
Mercury	0870615	8/21/97	8/21/97	EPA 7470A	0.00100	ND	п	
Selenium	. 0870783	8/27/97	9/11/97	EPA 7740	0.00500	ND	**	_
Silver	0970032	9/2/97	U	EPA 7760A	0.0200	ND	n	-
A 6117 1			D=0024					
<u>MW-1</u>	005000	0.42.40=	B70832				Water	
Antimony	0970032	9/2/97	9/5/97	EPA 6010A	0.100	ND	mg/l "	
Beryllium Cadmium	"	••	9/8/97	EPA 6010A	0.00500	ND		
		11	9/5/97	EPA 6010A	0.0050	ND	"	
Chromium		"	9/5/97	EPA 6010A	0.0100	ND.	n	
Copper Nickel	,,		"	EPA 6010A	0.0300	ND		
Nickei Thallium	"	 H	"	EPA 6010A	0.0300	ND	"	
i namum Žine	"	 H	"	EPA 6010A	0.200	ND	11	
				EPA 6010A	0.0200	ND	,, II	
Arsenic	0870783	8/27/97 "	9/11/97	EPA 7060A	0.00400	ND	11	
Lead			8/28/97	EPA 7421	0.00200	ND	11	
Mercury Selenium	0870615	8/21/97	8/21/97	EPA 7470A	0.00100	ND	"	
Silver	0870783	8/27/97	9/11/97 "	EPA 7740	0.00500	ND		
SHVCI	0970032	9/2/97	.,	EPA 7760A	0.0200	NĎ	"	
<u>MW-2</u>			<u>B70832</u>	21-03			<u>Water</u>	
Antimony	0970032	9/2/97	9/5/97	EPA 6010A	0.100	ND	mg/l	
Beryllium	**		9/8/97	EPA 6010A	0.00500	ND	,, Č	
Cadmium	10		9/5/97	EPA 6010A	0.0050	ND	н	
Chromium	11	11	9/5/97	EPA 6010A	0.0100	ND	n	
Copper	# .	H	u .	EPA 6010A	0.0300	ND	"	
Nickel	н ,	n	II .	EPA 6010A	0.0300	ND	H	
Thallium	н	"	u	EPA 6010A	0.200	ND	н	
7:	**	**		ED 1 (010)	0.0000			

North Creek Analytical, Inc.

*Refer to end of report for text of notes and definitions.

0.0320

0.0200



EPA 6010A



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PORTLAND • (503) 643-9200 • FAX 644-2202

Landau Associates, Inc. 23107 - 100th Ave. W., P.O. Box 1029 Edmonds, WA 98020-9129 Project: WINLOCK
Project Number: 281001.31
Project Manager: Tim Hunting

Sampled: 8/19/97 Received: 8/19/97

Reported: 9/17/97 09:09

Total Metals by EPA 6000/7000 Series Methods North Creek Analytical - Bothell

	Batch	Date	Date	Specific	Reporting	· · · · · · · · · · · · · · · · · · ·	·	-
Analyte	Number	Prepared	Analyzed	Method	Limit	Result	Units	Note
MW-2 (continued)			B70832	21-03			Water	
Arsenic	0870783	8/27/97	9/11/97	EPA 7060A	0.00400	0.00500	11	
.ead	u	н	8/28/97	EPA 7421	0.00200	0.00744	l e	
Легсигу	0870615	8/21/97	8/21/97	EPA 7470A	0.00100	ND	10	
Selenium	0870783	8/27/97	9/11/97	EPA 7740	0.00500	ND	19	
Silver	0970032	9/2/97	9/11/97	EPA 7760A	0.0200	ND	mg/l	
<u>MW-3</u>			B70832	21-04			<u>Water</u>	
Antimony	0970032	9/2/97	9/5/97	EPA 6010A	0.100	ND	mg/l	
Beryllium	11	"	9/8/97	EPA 6010A	0.00500	ND	"	
Cadmium	H		9/5/97	EPA 6010A	0.0050	ND	**	
Chromium	***	II	9/5/97	EPA 6010A	0.0100	ND	11	
Copper	tř	II .	n	EPA 6010A	0.0300	ND		
lickel	IF	n	n	EPA 6010A	0.0300	ND	n	
hallium	н	n	n	EPA 6010A	0.200	ND	n	
Linc	H	"	"	EPA 6010A	0.0200	0.0219	n	
Arsenic	0870783	8/27/97	9/11/97	EPA 7060A	0.00400	0.00460	u .	
_ead	0		8/28/97	EPA 7421	0.00200	0.00234	n	
/lercury	0870615	8/21/97	8/21/97	EPA 7470A	0.00100	ND	n	
Selenium	0870783	8/27/97	9/11/97	EPA 7740	0.00500	ND	"	
ilver	0970032	9/2/97	"	EPA 7760A	0.0200	ND	n	

North Creek Analytical, Inc.

*Refer to end of report for text of notes and definition





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PORTLAND • (503) 643-9200 • FAX 644-2202

Landau Associates, Inc.

23107 - 100th Ave. W., P.O. Box 1029

Edmonds, WA 98020-9129

Project: WINLOCK

Project Number: 281001.31

Project Manager: Tim Hunting

Sampled: 8/19/97

Received: 8/19/97

Reported: 9/17/97 09:09

Diesel Hydrocarbons (C12-C24) by WTPH-D/Quality Control North Creek Analytical - Bothell

	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
Batch: 0870578	Date Prepare	ed: 8/20/9	<u>7</u>		Extrac	tion Method: EP.	A 3520/60	00 Series		
<u>Blank</u>	0870578-BLF	K1								
Diesel Range Hydrocarbons	8/21/97			ND	mg/l	0.250				
Surrogate: 2-FBP	"	0.351		0.294	"	50.0-150	83.8			*****
LCS	0870578-BS1									
Diesel Range Hydrocarbons	8/21/97	2.04		1.96	mg/l	52.0-131	96.1			
Surrogate: 2-FBP	и =	0.351		0.309	"	50.0-150	88.0			
Duplicate	0870578-DUI	P1 B7	<u>08321-01</u>							
Diesel Range Hydrocarbons	8/21/97		ND	ND	mg/l			44.0		
Surrogate: 2-FBP	rr .	0.681		0.480	"	50.0-150	70.5			

North Creek Analytical, Inc.

*Refer to end of report for text of notes and definitions.





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PORTLAND = (503) 643-9200 = FAX 644-2202

Landau Associates, Inc.

23107 - 100th Ave. W., P.O. Box 1029

Edmonds, WA 98020-9129

Project:

WINLOCK

Sampled: 8/19/97

Project Number: 281001.31

Received: 8/19/97

Project Manager:

Tim Hunting

Reported:

9/17/97 09:09

Total Metals by EPA 6000/7000 Series Methods/Quality Control North Creek Analytical - Bothell

	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% N	lotes !
Batch: 0870615	Date Pren	aréd: 8/21/9	07		Fytra	rtian Mathada Bri	Cl Digosti	ian.		
Blank		Analyzed Level Result Result Units Recov. Level Date Prepared: 8/21/97 Extraction Method 0870615-BLK1 8/21/97 ND mg/l 0.0					CI DISEZII	Δπ		
Mercury		<u> Liki</u>		NĎ	ma/t	0.00100				
	0/21/7/			ND	ilig/i	0.00100				Ī
LCS										
Mercury	8/21/97	0.00500		0.00505	mg/l	70.0-130	101			_
<u>Duplicate</u>	0870615-D	UP1 B	708119-01							
Mercury				ND	mg/l			20.0		
Matrix Spike	0870615-N	1\$1 B7	708119-01							
Mercury				0.00487	mg/l	75.0-125	97.4			
Matrix Spike Dup	0870615-N	ISD1 B7	708119-01							
Mercury				0.00505	mg/l	75.0-125	101	20.0	3.63	
Batch: 0870783	Date Prepa	ared: 8/27/9	17		Extrac	tion Method:_EP	A.3020			_
<u>Blank</u>			=							
Arsenic				ND	mg/l	0.00100				
Lead	8/28/97			ND		0.00200				
Selenium	9/11/97			ND	11	0.00100				
<u>LCS</u>	<u>0870783-B</u>	SI								
Arsenic				0.0494	mg/l	75.0-125	98.8			ä
Lead	8/28/97					75.0-125	91.9			
Selenium	9/11/97	0.0250			U	75.0-125	96.4			
<u>Duplicate</u>	<u>0870783-D</u>	<u>UP1 B7</u>	08232-01							
Arsenic	9/11/97			ND	mg/l			20.0		Ų
Lead	8/28/97		ND	ND				20.0		
Selenium	9/11/97		ND		n			20.0		1
Matrix Spike	<u>0870783-M</u>	<u>isi B7</u>	08232-01							
Arsenic	9/11/97	0.0500	ND	0.0488	mg/l	70.0-130	97.6			_
Lead	8/28/97	0.0260		0.0259		70.0-130	99.6			
Selenium	9/11/97	0.0250	ND	0.0249	"	70.0-130	99.6			
Matrix Spike Dup	0870783-M	ISD1 B7	08232-01							7
Arsenic	9/11/97	0.0500	ND	0.0413	mg/l	70.0-130	82.6	20.0	16.6	
					~				-	

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Landau Associates, Inc.

Project: WINLOCK

Sampled: 8/19/97

23107 - 100th Ave. W., P.O. Box 1029

Project Number: 281001.31

Received: 8/19/97

Edmonds, WA 98020-9129

Project Manager: Tim Hunting

Reported: 9/17/97 09:09

Total Metals by EPA 6000/7000 Series Methods/Quality Control North Creek Analytical - Bothell

	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% Notes*
Matrix Spike Dup (continued)	0870783-M	<u> 1SD1 B'</u>	708232-01						
Lead	8/28/97	0.0260	ND	0.0253	mg/l	70.0-130	97.3	20.0	2.34
Selenium	9/11/97	0.0250	ND	0.0252	н	70.0-130	101	20.0	1.40
Batch: 0970032	<u>Date Prep</u>	ared: 9/2/9	Ž		Extra	ction Method: EP	A 3010		
<u>Blank</u>	<u>0970032-B</u>	LK1							
Antimony	9/5/97			ND	mg/l	0.100			
Beryllium	9/8/97			ND	10	0.00500			
Cadmium	9/5/97			ND		0.00500			
Chromium	9/5/97			ND	**	0.0100			
Copper	tr			ND	h	0.0300			
Nickel	u .			ND	**	0.0300			
Thallium	11			ND	11	0.200			
Zinc	10			ND	11	0.0200			
Silver	9/11/97			ND	".	0.0200			
LCS	<u>0970032-B</u>	<u>S1</u>							
Antimony	9/5/97	1.00		0.936	mg/l	80.0-120	93.6		
Beryllium	9/8/97	1.00		0.928	**	80.0-120	92.8		
Cadmium	9/5/97	1.00		0.923		80.0-120	92.3		
Chromium	9/5/97	1.00		0.924	**	80.0-120	92.4		
Copper	H,	1.00		0.934	**	80.0-120	93.4		
Nickel	n	1.00		0.908	11	80.0-120	90.8		
Thallium	O	1.00		0.877	н	80.0-120	87.7		
Zinc	11	1.00		0.959	**	80.0-120	95.9		
Silver	9/11/97	1.00		0.947	**	75.0-125	94.7		
<u>Duplicate</u>	0970032-D	UPI B'	708321-02						
Antimony	9/5/97		ND	ND	mg/l			20.0	
Beryllium	9/8/97		ND	ND	"			20.0	
Cadmium	9/5/97		ND	ND				20.0	
Chromium	9/5/97		ND	ND	11			20.0	
Copper	11		ND	ND	11			20.0	
Nickel	н		ND	ND	n			20.0	
Thallium	и		ND	ND	11			20.0	
Zinc	11		· ND	ND	"			20.0	
				,				-0.0	

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Silver

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20.0



9/11/97

ND

ND



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23107 - 100th Ave. W., P.O. Box 1029

Edmonds, WA 98020-9129

Project:

WINLOCK

Project Number: 281001.31

Project Manager: Tim Hunting

Sampled: 8/19/97

Received: 8/19/97

Reported: 9/17/97 09:09

Total Metals by EPA 6000/7000 Series Methods/Quality Control North Creek Analytical Bothell

	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% Note
									=:
Matrix Spike	<u>0970032-MS</u>	<u>81 B</u>	708 <u>321-02</u>						
Antimony	9/5/97	1.00	ND	0.974	mg/l	80.0-120	97.4		
Beryllium	9/8/97	1.00	ND	0.948	0	80.0-120	94.8		
Cadmium	9/5/97	1.00	ND	0.918	11	80.0-120	91.8		
Chromium	9/5/97	1.00	ND	0.933	н	80.0-120	93.3		
Copper	9/5/97	1.00	ND	0.915	mg/l	80.0-120	91.5		
Nickel	n	1.00	ND	0.872	"	80.0-120	87.2		
Thallium	n	1.00	ND	0.727	n	80.0-120	72.7		
Zinc	n	1.00	ND	0.938	**	80.0-120	93.8		
Silver	9/11/97	1.00	NĎ	0.991	11	75.0-125	99.1		
				****		75.0 125	,,,,		
Matrix Spike	0970032-MS	2 B7	708321 <u>-02</u>						
Antimony	9/5/97	2.00	ND	1.99	mg/l	80.0-120	99.5		,
Beryllium	9/8/97	2.00	ND	1.92	"	80.0-120	96.0		
Cadmium	9/5/97	2.00	ND	1.95	" .	80.0-120	97.4		
Chromium	9/5/97	2.00	ND	1.95	tt	80.0-120	97. 5		
Copper	**	2.00	ND	1.88	tr.	80.0-120	94.0		
Nickel	**	2.00	ND	1.83	0	80.0-120	91.5		
Thallium	19	2.00	ND	2.26	**	80.0-120	113		
Zinc	11	2.00	NĎ	1.96	,,	80.0-120	98.0		
		2.00	110	1.70		00.0-120	90.0		
Matrix Spike Dup	0970032-MS	<u>D1 B7</u>	08321-02						
Antimony	9/5/97	1.00	ND	0.965	mg/l	80.0-120	96.5	20.0	0.928
Beryllium	9/8/97	1.00	ND	0.899	"	80.0-120	89.9	20.0	5.31
Cadmium	9/5/97	1.00	ND	0.883	n	80.0-120	88.3	20.0	3.89
Chromium	9/5/97	1.00	ND	0.890	n	80.0-120	89.0	20.0	4.72
Copper	n	1.00	ND	0.850	10	80.0-120	85.0	20.0	7.37
Nickel	11	1.00	ND	0.849	n	80.0-120	84.9	20.0	7.37 2.67
Thallium	"	1.00	ND	0.597	**	80.0-120	59.7	20.0	
Zinc	11	1.00	ND	0.900	n	80.0-120	90.0		19.6
Silver	9/11/97	1.00	ND	0.933	11	75.0-125		20.0	4.13
	2. I I/2 /	1.00	ND	0.733		/3.0-123	93.3	20.0	6.03

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RPD

23107 - 100th Ave. W., P.O. Box 1029

Relative Percent Difference

Edmonds, WA 98020-9129

Project: WINLOCK

Project Number: 281001.31

Project Manager: Tim Hunting

Sampled: 8/19/97

Received: 8/19/97

Reported: 9/17/97 09:09

Notes and Definitions

Note The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch. DET Analyte DETECTED ND Analyte NOT DETECTED at or above the reporting limit NR Not Reported dry Sample results reported on a dry weight basis Recov. Recovery

North Creek Analytical, Inc.

Project Manager



PROJECT

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LANDAU ASSOCIATES, INC.

CHAIN OF CUSTODY REPORT Work Order # 1370832 REPORT TO: 17M HUNTINGTON INVOICE TO: LANDAU ASSOCIATES TURNAROUND REQUEST in Business Days * ATTENTION: ADDRESS: 23107 100 TH AUE W Organic & Inorganic Analyses ADDRESS: EDMONDS 98020 PHONE: 778-0907 P.O. NUMBER: NCA QUOTE #: PROJECT NAME: WINLOCK 281001.3/60 PROJECT NUMBER: OTHER CHRIS KIMMEL SAMPLED BY: * Turnaround Requests less than standard may incur Rush Charges. SAMPLING NCA SAMPLE ID IDENTIFICATION DATE/TIME (Laboratory Use Only) # OF (W. S. A. O) CONTAINERS MW-L 8/19/97 1000 B 708321-01 COMMENTS MW--02 TURNAROUND MW-2 -03 1145 MW-3 1250 -04 hustrie Kinnel DATE: 8/19/9 RECEIVED BY IS ... FIRM: LANGE ASSOCTIME: 1615 PRINT NAME: RELINQUISHED BY (Signature): DATE: RECEIVED BY (Signature) DATE: PRINT NAME: FIRM: PRINT NAME: ADDITIONAL REMARKS:



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JAN 1 3 1997

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Landau Associates, Inc.

23107 - 100th Ave. W., P.O. Box 1029

Edmonds, WA 98020-9129

Winlock Wood Pro Project:

Project Number: 281001.60

Project Manager: Tim Hunting

Received: 12/20/96

Sampled: 12/20/96

Reported: 1/9/97 07:47

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
MW-1	B612451-01	Water	12/20/96
MW-2	B612451-02	Water	12/20/96
MW-3	B612451-03	Water	12/20/96
t-≅ C5	B612451-04	Soil	12/20/96
LF-C6	B612451-05	Soil	12/20/96

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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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23107 - 100th Ave. W., P.O. Box 1029

Edmonds, WA 98020-9129

Project:

Winlock Wood Pro

Project Number: 281001.60

Project Manager: Tim Hunting

Sampled: 12/20/96

Received: 12/20/96

Reported: 1/9/97 07:47

Gasoline Hydrocarbons (Toluene to Dodecane) by WTPH-G North Creek Analytical - Bothell

	Batch	Date	Date	Surrogate	Reporting		-	
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
LF-C5			₿6124 :	\$1_04			Sail	
Gasoline Range Hydrocarbons	1260623	12/24/96	· 12/24/96	51-04	100	1640	<u>Soil</u> ma/ka d#k	, .
Surrogate: 4-BFB (FID)	-11	"	"	50.0-150	100	NR	mg/kg dry %	2
LF-C6			<u>B6124</u>	<u>51-05</u>			<u>Soil</u>	
Coline Range Hydrocarbons	1260623	12/24/96	12/24/96		100	1480	mg/kg dry	1
cogate: 4-BFB (FID)	"	"	ii .	50.0-150		NR	%	2

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Project: Winlock Wood Pro
Sampled: 12/20/96
Project Number: 281001.60
Received: 12/20/96

Project Number: 281001.60 Received: 12/20/96
Project Manager: Tim Hunting Reported: 1/9/97 07:47

Diesel Hydrocarbons (C12-C24) by WTPH-D North Creek Analytical - Bothell

	Batch	Date	Date	Surrogate	Reporting		<u>.</u>	····· ····
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
<u>MW-1</u>			B6124	51-01			<u>Water</u>	
Diesel Range Hydrocarbons	1260568	12/23/96	12/25/96		0.250	NĎ	mg/l	
Surrogate: 2-FBP	"	"	"	50.0-150		74.7	%	
<u>MW-2</u>			B6124	<u>51-02</u>			<u>Water</u>	
Range Hydrocarbons	1260568	12/23/96	12/25/96	-	0.250	ND	mg/l	
cogate: 2-FBP	"	"	"	50.0-150		87.0	%	
<u>MW-3</u>			B6124	<u>51-03</u>			Water	
Diesel Range Hydrocarbons	1260568	12/23/96	12/25/96		0.250	ND	mg/l	
Surrogate: 2-FBP	"	"	"	50.0-150		88.3	%	

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Landau Associates, Inc.

23107 - 100th Ave. W., P.O. Box 1029

Project:

Winlock Wood Pro

Sampled: 12/20/96

Edmonds, WA 98020-9129

Project Number: Project Manager:

281001.60 Tim Hunting

Received:

12/20/96

Reported:

1/9/97 07:47

Metals by EPA 6010/7000 Series Methods North Creek Analytical - Bothell

	Batch	Date	Date	Specific	Reporting			
Analyte	Number	Prepared	Analyzed	Method	Limit	Result	Units	Notes
<u>MW-1</u>			B61245	51-01			Water	
Antimony	0170003	12/31/96	1/7/97	EPA 6010A	0.100	ND	mg/l	
Beryllium	"	11	11	EPA 6010A	0.00500	ND	111 <u>6</u> /1	
Cadmium	**	11	u .	EPA 6010A	0.00500	ND	11	
Chromium	"	11	"	EPA 6010A	0.0100	ND		
nper	11	11	11	EPA 6010A	0.0300	ND	n.	
kel	н		17	EPA 6010A	0.0300	ND	**	1
Ťhāllium	•		**	EPA 6010A	0.200	ND	11	
Zinc	"		**	EPA 6010A	0.0200	ND	11	
Arsenic	0170081	1/6/97		EPA 7060A	0.00400	ND	11	•
Lead	a -	н	1/6/97	EPA 7421	0.00200	ND		i I
Mercury	1260634	12/23/96	12/23/96	EPA 7470A	0.00100	ND	n	
Selenium	0170081	1/6/97	1/7/97	EPA 7740	0.00500	ND	11	_
Silver	0170003	12/31/96	1/2/97	EPA 7760A	0.0200	ND	11	
MW-2			B61245	51-02			Water	_
Antimony	0170003	12/31/96	1/7/97	EPA 6010A	0.100	ND	mg/l	•
Beryllium	0	0		EPA 6010A	0.00500	ND	"	
Cadmium	n			EPA 6010A	0.00500	ND	11	_
Chromium	"	**	"	EPA 6010A	0.0100	0.0115	11	
Copper	19	11	11	EPA 6010A	0.0300	0.0320	**	
Nickel		н	H	ĒPA 6010A	0.0300	ND		
llium	11	11	н	EPA 6010A	0.200	ND	11	
Linc	H	**	H	EPA 6010A	0.0200	0.0265	11	1
Arsenic	0170081	1/6/97	**	EPA 7060A	0.00400	ND	и .	
Lead	n	11	1/6/97	EPA 7421	0.00200	0.0105	11	
Mercury	1260634	12/23/96	12/23/96	ËPA 7470A	0.00100	ND	11	
Selenium	0170081	1/6/97	1/7/97	EPA 7740	0.00500	ND	"	
Silver	0170003	12/31/96	1/2/97	EPA 7760A	0.0200	ND	11	
<u>MW-3</u>			B61245	31-03			Water	
Antimony	0170003	12/31/96	1/7/97	EPA 6010A	0.100	ND	mg/l	
Beryllium	ıı	II .	11	EPA 6010A	0.00500	ND	"	
Cadmium	n 💎	II .	u .	EPA 6010A	0.00500	ND	it	
Chromium	11	u	"	EPA 6010A	0.0100	ND		
Copper	"	n .	n	EPA 6010A	0.0300	ND	"	_
Nickel	19	н	**	EPA 6010A	0.0300	ND	•	=
Thallium	11	u .	"	EPA 6010A	0.200	ND	n	
Zinc		**		EPA 6010A	0.0200	0.0236	1)	

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PORTLAND ■ (503) 643-9200 ■ FAX 644-2202

Landau Associates, Inc.

23107 - 100th Ave. W., P.O. Box 1029 Edmonds, WA 98020-9129

Project:

Winlock Wood Pro

Project Number: 281001.60 Project Manager: Tim Hunting Sampled: 12/20/96

Received: 12/20/96 Reported: 1/9/97 07:47

Metals by EPA 6010/7000 Series Methods North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
MW-3 (continued)			B6124	<u>51-03</u>			Water	
Arsenic	0170081	1/6/97	1/7/97	EPA 7060A	0.00400	ND	mg/l	
Lead	11		1/6/97	EPA 7421	0.00200	ND	"	
Mercury	1260634	12/23/96	12/23/96	EPA 7470A	0.00100	ND	. "	
Selenium	0170081	1/6/97	1/7/97	EPA 7740	0.00500	NĎ	11	
° 'er	0170003	12/31/96	1/2/97	EPA 7760A	0.0200	ND	10	

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Landau Associates, Inc. 23107 - 100th Ave. W., P.O. Box 1029

Edmonds, WA 98020-9129

Project: Winlock Wood Pro

Project Number: 281001.60
Project Manager: Tim Hunting

Sampled: 12/20/96 Received: 12/20/96

Reported: 1/9/97 07:47

Dry Weight Determination North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
LF-C5 ·	B612451-04	Soil	70.9	%
LF-C6	B612451-05	Soil	71.3	%

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23107 - 100th Ave. W., P.O. Box 1029

Project: Winlock Wood Pro

Sampled: 12/20/96

Edmonds, WA 98020-9129

Project Number: 281001.60 Project Manager: Tim Hunting

Received: 12/20/96

Reported: 1/9/97 07:47

Gasoline Hydrocarbons (Toluene to Dodecane) by WTPH-G/Quality Control North Creek Analytical - Bothell

	Date	Spike	Sample	QC	F	Reporting Limit	Recov.	RPD	RPD	-
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
Batch: 1260623	Date Prepa	red: 12/24	1/96		Extraction	on Method: Me	OH Extr	action		
Blank	1260623-B	LK1				_				
Gasoline Range Hydrocarbons	12/24/96			ND	mg/kg dr	y 5.00				
Surrogate: 4-BFB (FID)	"	4.00		3.75	"	50.0-150	93.8			
779	1260623-BS	<u>S1</u>								
oline Range Hydrocarbons	12/24/96	25.0		20.3	mg/kg dr	y 37.0-119	81.2			
Surrogate: 4-BFB (FID)	"	4.00		4.02	"	50.0-150	100			
Duplicate	1260623-D	UP1 Be	612451-05							
Gasoline Range Hydrocarbons	12/24/96	-	1480	908	mg/kg dr	у		53.0	47,9	
Surrogate: 4-RFR (FID)	"	5.61		ND	"	50.0-150	NĀ			7

North Creek Analytical, Inc.

*Refer to end of report for text of notes and definitions.



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PORTLAND **(503)** 643-9200 **FAX** 644-2202

Landau Associates, Inc.

23107 - 100th Ave. W., P.O. Box 1029

Edmonds, WA 98020-9129

Project:

Winlock Wood Pro

Project Number: 281001.60

Project Manager: Tim Hunting

Sampled: 12/20/96

Received: 12/20/96

Reported: 1/9/97 07:47

Diesel Hydrocarbons (C12-C24) by WTPH-D/Quality Control North Creek Analytical - Bothell

	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD)		
	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit		6 Note		
	Date Prep	pared: 12/	23/96		Extraction Method: EPA 3520/600 Series							
	1260568-I	BLK1										
S	12/24/96			ND	mg/l	0.250						
	"	0.344		0.310	"	50.0-150	90.1					
	<u>1260568-1</u>	BS1										
S	12/24/96	2.04		2.44	mg/l	54.0-121	120					
	"	0.344		0.310	"	50.0-150	90.1					
	<u>1260568-I</u>	DUP1	B612392-05									
s	12/24/96		ND	ND	mg/l			44.0				
	n	0.648		0.549	"	50.0-150	84.7					
	1260568-I	DUP2	B612392-06									
S	12/24/96		ND	ND	mg/l			44.0				
	"	0.648	,	0.581	"	50.0-150	89.7					
		0.648	, ND			50.0-	150	150 89.7				

North Creek Analytical, Inc.

*Refer to end of report for text of notes and definitions

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Landau Associates, Inc.

23107 - 100th Ave. W., P.O. Box 1029

Edmonds, WA 98020-9129

Project: Winlock Wood Pro

Project Number: 281001.60 Project Manager: Tim Hunting Sampled:

Received: 12/20/96

12/20/96

Reported: 1/9/97 07:47

Metals by EPA 6010/7000 Series Methods/Quality Control North Creek Analytical - Bothell

	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	Ŕ₽Ď	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
Batch: 0170003	Date Prepa	radi 17/21	/06		Fuénca	tion Method: EP.	A 3010			
Blank	0170003-BI		<u> </u>		Extrac	non Methou: Er.	A JULU			
Antimony	<u>01/0003-B1</u> 1/7/97	<u>LKI</u>		ND	mg/l	0.100				
Beryllium	1///9/			ND	ııg/ı	0.00500				
Cadmium	11			ND	**	0.00500				
caumum	11			ND		0.0100				
	11			ND ND	**	0.0300				
Copper Nickel	11			ND	"	0.0300				
Thallium	n			ND	11	0.200				
Zinc	II			ND	**	0.0200				
Zinc Silver	1/2/97			ND	**	0.0200				
Silver	1/2/9/			ND		0.0200				
<u>LCS</u>	0170003-BS	51								
Antimony	1/7/97	1.00		0.909	mg/l	70.0-130	90.9			
Beryllium	11	1.00		0.952		70.0-130	95.2			
Cadmium	#1	1.00		0.879	н	70.0-130	87.9			
Chromium	ŧ	1.00		0.933	11	70.0-130	93.3			
Copper	n	1.00		0.924	н	70.0-130	92.4			
Nickel	11	1.00		0.932	11	70.0-130	93.2			
Thallium	n	1.00		0.859	11	70.0-130	85.9			
Zinc	n	1.00		0.916	11	70.0-130	91.6			
Silver	1/2/97	0.250		0.208	tt	70.0-130	83.2			
<u>Duplicate</u>	0170003-DI	UP1 Be	512457-01							
Antimony	1/7/97		ND	ND	mg/l			20.0		3
Beryllium	"		ND	ND	"			20.0		3
Cadmium	11		ND	ND	I.			20.0		3
Chromium	"		ND	ND	10			20.0		3
Copper	11		ND	ND	10			20.0		3
Nickel	**		ND	ND	17			20.0		3
Thallium	11	•	ND	ND	11			20.0		3
Zinc	II		1.83	1.81	lt.			20.0	1.10	
Silver	1/2/97		ND	ND	U .			20.0		3
Matrix Spike	<u>0170003-M</u>	S1 R4	612457-01							
Antimony	1/7/97	1.00	ND	0.890	mg/l	75.0-125	89.0			
Beryllium	177797	1.00	ND	0.890	n Ing/i	75.0-125	96.1			
Cadmium	n	1.00	ND	0.883	10	75.0-125	88.3			
Chromium	"	1.00	ND	0.883	11	75.0-125	93.2			
Chroman		1.00	אט	0.334		/3.0-123	73.4			

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PORTLAND **(503)** 643-9200 **FAX** 644-2202

Landau Associates, Inc.

23107 - 100th Ave. W., P.O. Box 1029

Edmonds, WA 98020-9129

Project:

Winlock Wood Pro

Project Number: 281001.60

Project Manager: Tim Hunting Sampled: 12/20/96

Received: 12/20/96

Reported: 1/9/97 07:47

Metals by EPA 6010/7000 Series Methods/Quality Control North Creek Analytical - Bothell

	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD		
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes	
Matrix Spike (continued)	0170003-M	(C1 D4	12487 A1								
Copper	1/7/97	1.00	612457-01 ND	0.019	c-/1	75.0.125	01.0				
Nickel	1/// 7 /	1.00	ND ND	0.918 0.923	mg/l "	75.0-125	91.8				
Thallium	O.	1.00				75.0-125	92.3				
Zinc	n		ND	0.899	"	75.0-125	89.9				
Correr Correction Control Cont	1/2/97	1.00 0.250	1.83 ND	2.73 0.213	"	75.0-125 75.0-125	90.0 85.2				
Matuir Šnika Dun	0170003 84	CD1 D	14488.01								
Matrix Spike Dup Antimony	<u>0170003-M</u> 1/7/97		512457-01	άροδ						_	
	1///9/	1.00	ND	0.899	mg/l "	75.0-125	89.9	20.0	1.01		
Beryllium Cadmium		1.00	ND	0.974		75.0-125	97.4	20.0	1.34		
	.,	1.00	ND	0.874	"	75.0-125	87.4	20.0	1.02		
Chromium		1.00	ND	0.932		75.0-125	93.2	20.0	0		
Copper	"	1.00	ND	0.921	**	75.0-125	92.1	20.0	0.326	-	
Nickel		1.00	ND	0.929	11	75.0-125	92.9	20.0	0.648		
Thallium	**	1.00	ND	0.925	"	75.0-125	92.5	20.0	2.85		
Zinc		1.00	1.83	2.71	n	75.0-125	88.0	20.0	2.25		
Silver	1/2/97	0.250	ND	0.214	"	75.0-125	85.6	20.0	0.468		
Batch: 0170081	Date Prepared: 1/6/97				Extraction Method: EPA 3020						
Blank	<u>0170081-BI</u>	<u>_K1</u>									
Arsenic	1/7/97			ND	mg/l	0.00400					
Lead	1/6/97			ND	u	0.00200					
nium	1/7/97			ND	Ħ	0.00500				_	
LCS	0170081-BS	<u> </u>	•			•					
Arsenic	1/7/97	0.0500		0.0483	mg/l	70.0-130	96.6				
Lead	1/6/97	0.0250		0.0270	"	70.0-130	108			_	
Selenium	1/7/97	0.0250		0.0209	"	70.0-130	83.6				
<u>Duplicate</u>	<u>0170081-DU</u>	J P1 B 6	12451-01							_	
Arsenic	1/7/97		ND	ND	mg/l			20.0		3	
Lead	1/6/97		ND	ND	"			20.0		3	
Selenium	1/7/97		ND	ND	11			20.0		3	
Matrix Spike	0170081-M	S1 B6	12451-0 <u>1</u>								
Arsenic	1/7/97	0.0500	ND	0.0508	mg/l	75.0-125	102				
Lead	1/6/97	0.0250	. ND	0.0284	"	75.0-125	114				
Selenium	1/7/97	0.0250	ND	0.0264	**	75.0-125					
	111171	0.0230	ND	0.0103		/3.0-123	65.2				

North Creek Analytical, Inc.

*Refer to end of report for text of notes and definition



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PORTLAND • (503) 643-9200 • FAX 644-2202

Landau Associates, Inc. 23107 - 100th Ave. W., P.O. Box 1029 Project: Winlock Wood Pro

Sampled: 12/20/96

Edmonds, WA 98020-9129

Project Number: 281001.60
Project Manager: Tim Hunting

Received: 12/20/96 Reported: 1/9/97 07:47

Metals by EPA 6010/7000 Series Methods/Quality Control North Creek Analytical - Bothell

	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD		
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	9,6	Notes*	
Matrix Spike Dup	<u>0170081-M</u>	SD1 B	612451-01								
Arsenic	1/7/97	0.0500	ND	0.0500	mg/l	75.0-125	100	20.0	. 1.98		
Lead	1/6/97	0.0250	ND	0.0283	**	75.0-125	113	20.0	0.881		
Selenium	1/7/97	0.0250	ND	0.0152	11	75.0-125	60.8	20.0	6.98	4	
ch: 1260634		Date Prepared: 12/23/96				Extraction Method: BrCl Digestion					
<u>añk</u> Mercury	<u>1260634-BI</u> 12/23/96	<u>LK1</u>		ND	mg/l	0.00100					
LCS	1260634-BS	<u>81</u>									
Mercury	12/23/96	0.00500		0.00601	mg/l	70.0-130	120				
<u>Duplicate</u>	<u>1260634-DI</u>	<u>UP1 - B</u>	<u> 612451-01</u>								
Mercury	12/23/96		ND	ND	mg/l			20.0		3	
Matrix Spike	<u>1260634-M</u>	<u>S1 Be</u>	612451-01								
Mercury	12/23/96	0.00500	NĎ	0.00603	mg/l	75.0-125	121				
Matrix Spike Dup	<u>1260634-M</u>	SD1 Bo	512451 <u>-01</u>								
Mercury	12/23/96	0.00500	ND	0.00610	mg/l	75.0-125	122	20.0	0.823		

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PORTLAND **(503)** 643-9200 **FAX** 644-2202

Landau Associates, Inc. 23107 - 100th Ave. W., P.O. Box 1029

Project: Winlock Wood Pro Project Number: 281001.60

Sampled: 12/20/96

Edmonds, WA 98020-9129

Project Manager: Tim Hunting

Received: 12/20/96

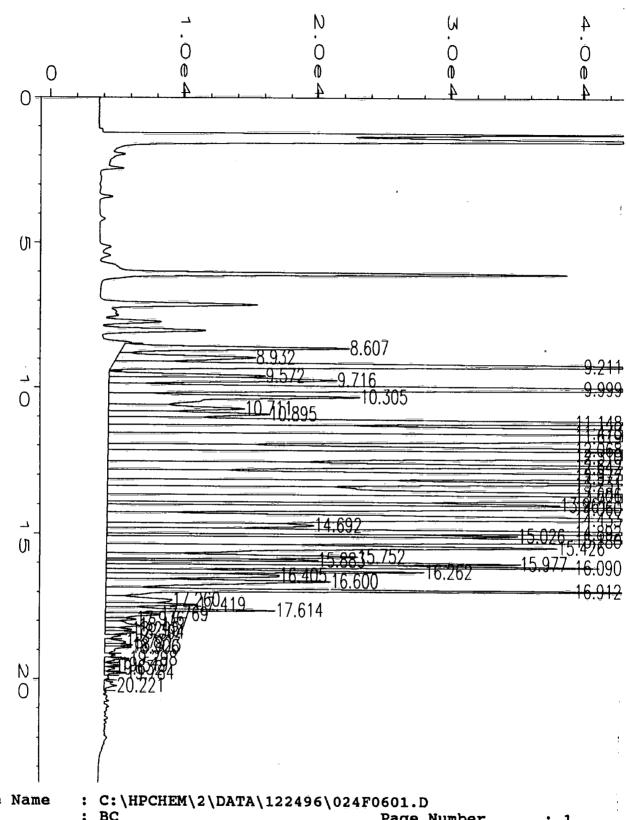
1/9/97 07:47 Reported:

Notes and Definitions

#	Note
1	The chromatogram for this sample does not resemble a typical gasoline pattern. Please refer to the sample chromatogram.
2	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample.
3	Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit.
7	The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

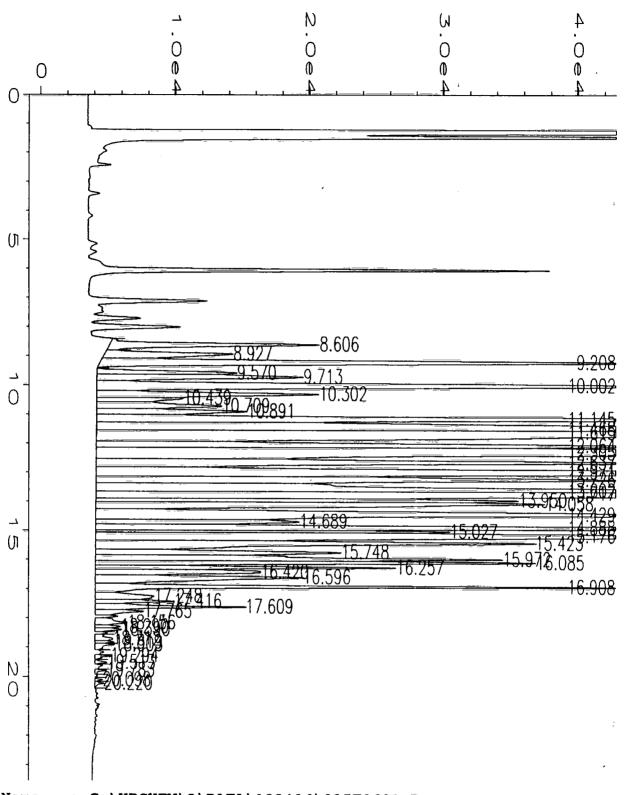
North Creek Analytical, Inc.

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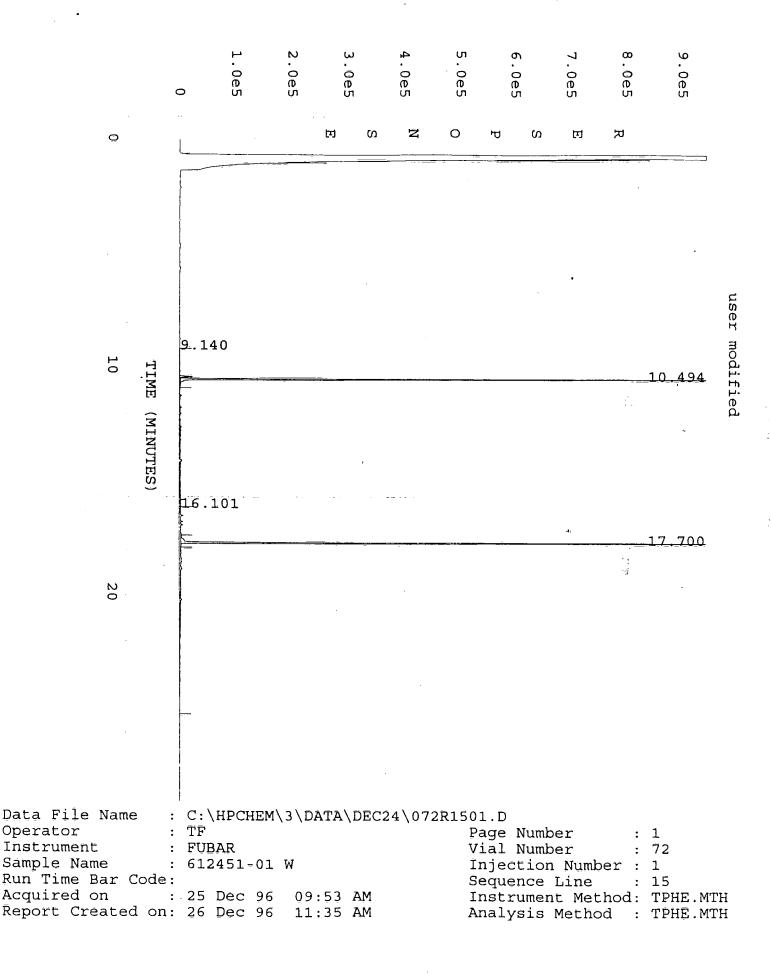
Data File Name Operator : BC Page Number Instrument : GC#6 Vial Number Sample Name : b612451-04 r1 Injection Number: 1 Run Time Bar Code: Sequence Line : 6 Acquired on : 24 Dec 96 06:37 PM Instrument Method: WA-SOIL.MTH Report Created on: 24 Dec 96 07:01 PM Analysis Method : WA-SOIL.MTH Multiplier

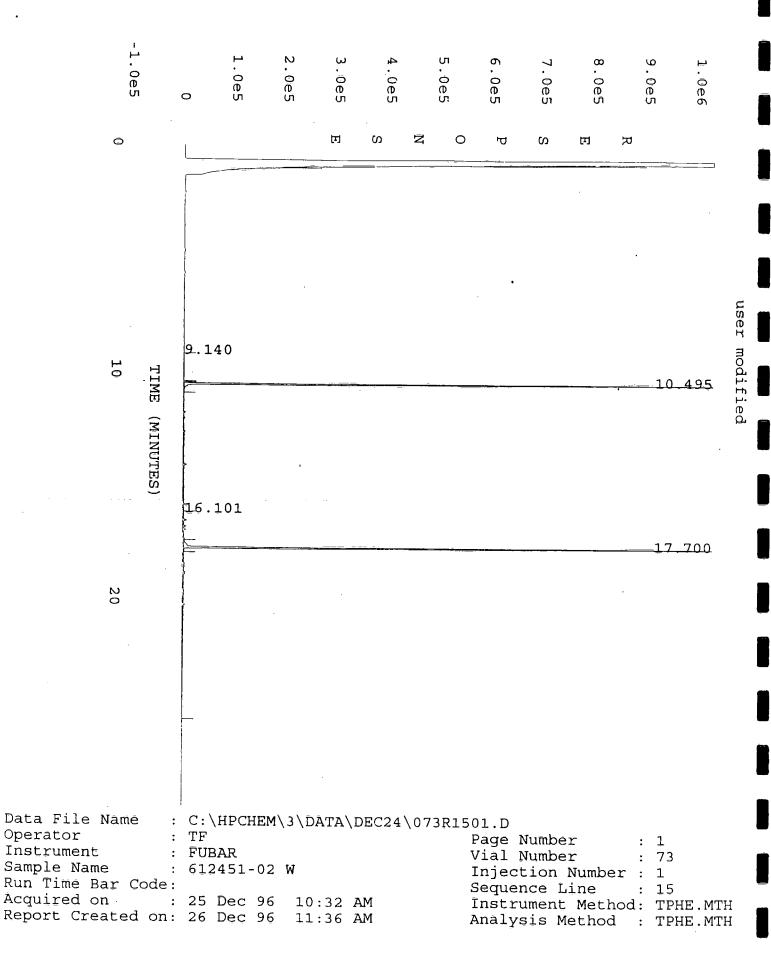
Multiplier : 20 Sample Info : 5 ul

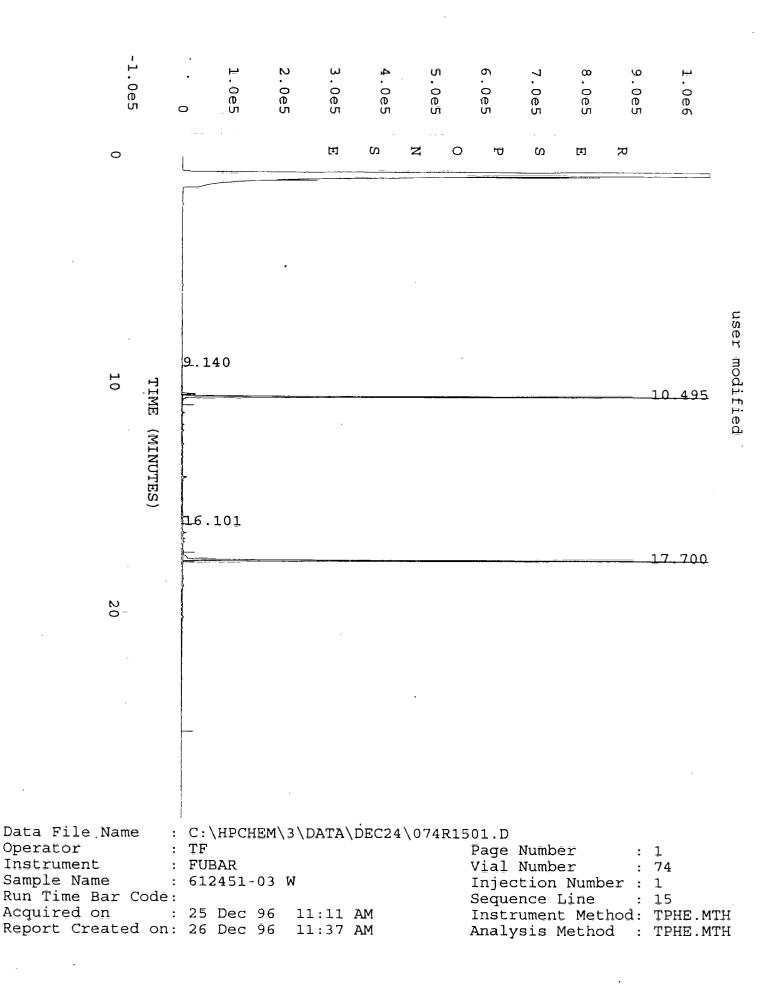


Data File Name : C:\HPCHEM\2\DATA\122496\025F0601.D Operator BC Page Number 1 Instrument GC#6 Vial Number 25 Sample Name : b612451-05 r1 Injection Number 1 Run Time Bar Code: Sequence Line Acquired on 24 Dec 96 Instrument Method: WA-SOIL.MTH 07:07 PM Report Created on: 24 Dec 96 07:31 PM Analysis Method : WA-SOIL.MTH

Multiplier : 20 Sample Info : 5 ul







LANDAU ASSOCIATES, INC. Edmonds, WA (206) 778-0907 FAX (206)778-6409

Chain-of-Custody Record

Nº

3410

Project Willock D	wood	Preduc	5 Job No. 28	1001.60	<u>)</u>	\angle		Tes	ting Para	amete	rs		
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Sampler's Name	CC &	TD	+	-			£/	//	//		//	•	ccelerated
oumpier o marrie				No. of			7 /		///	/ /		_	
Sample Number	Date	Time	Matrix	Containers	3/6	73		//,	//		/ .	Observati	ons/Comments
MW-1	12/20/2	10:00	Water	2	XX			8612	451-0		 -	Observan	Una/Comments
MW-Z		10:30		2	XX				1	2			
MW-3		11:00	\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	12	XX		1			3	Reg	ort Results	to Attn:
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East 11115 Montgomery, Suite B • Spokane, WA 99206-4776 (509) 924-9200 • FAX 924-9290

9405 S.W. Nimbus Avenue • Beaverton, OR 97008-7132

(503) 643-9200 • FAX 644-2202

Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Timothy Huntting Client Project ID: Sample Matrix:

Vanguard Properties Water

WTPH-D Extended

Analysis Method: B509465-01 First Sample #:

Sampled: Sep 21, 1995 Received: Sep 25, 1995 Sep 27, 1995 Extracted:

Analyzed: Sep 28-29, 1995 Reported: Oct 10, 1995

TOTAL PETROLEUM HYDROCARBONS - DIESEL RANGE EXTENDED

Sample Number	Sample Description	Diesel Result mg/L (ppm)	Heavy Oil Result mg/L (ppm)	Surrogate Recovery %
B509465-01	MW-1	N.D.	N.D.	58
B509465-02	MW-2 9/19/95	N.D.	N.D.	55
B509465-03	MW-3 9/20/95	0.27	N.D.	52
BLK092795	Method Blank	N.D.	N.D.	67

Reporting Limit:

0.25

0.75

2-Fluorobiphenyl surrogate recovery control limits are 50 - 150%.

Extractable Hydrocarbons are quantitated as Diesel Range Organics (C12 - C24) and Heavy Oil Range Organics (>C24). Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL Inc.

Sama Dutter

Laura Dutton Project Manager



18939 120th Avenue N.E., Suite 101 • Bothell, WA 98011-9508 (206) 481-9200 • FAX 485-2992 East 11115 Montgomery, Suite B • Spokane, WA 99206-4776 (509) 924-9200 • FAX 924-9290

9405 S.W. Nimbus Avenue • Beaverton, OR 97008-7132

(503) 643-9200 • FAX 644-2202

Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Timothy Huntting Client Project ID: Vanguard Properties Sample Matrix: Water

Analysis Method: WTPH-D

Units: mg/L (ppm)

T. Fitzgibbon Analyst:

Extracted: Sep 27, 1995

Analyzed: Sep 28-29, 1995. Reported: Oct 10, 1995

HYDROCARBON QUALITY CONTROL DATA REPORT

ACCURACY ASSESSMENT Laboratory Control Sample

Diesel

Spike Conc. Added:

2.0

Spike

Result:

1.73

% Recovery:

87

Upper Control Limit %:

119

Lower Control

Limit %:

74

PRECISION ASSESSMENT Sample Duplicate

Diesel Range **Organics**

Sample

Number: B509465-03

Original

Result:

0.27

Duplicate

Result:

0.26

Relative Percent Difference values are not % Difference reported at sample concentration levels

less than 10 times the Reporting Limit.

Maximum

RPD:

44

NORTH CREEK ANALYTICAL In

Yama Dutton

Laura Dutton **Project Manager** % Recovery:

Spike Result

x 100

Spike Concentration Added

Relative % Difference:

Original Result - Duplicate Result_

x 100

(Original Result + Duplicate Result) / 2



Landau Associates

23107 100th Avenue W. Edmonds, WA 98020

Attention: Timothy Huntting

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Vanguard Properties Client Project ID: Sample Descript: MW-1

Sample Matrix:

Analysis Method: EPA 6010/7000 Sample Number: B509465-01 Water

Sep 21, 1995 Sampled: Received: Sep 25, 1995 Digested: Sep 27, 1995 Analyzed: Sep 27-29, 1995 Oct 10, 1995 Reported:

E.P.A. PRIORITY METALS

Analyte	Reporting Limit μg/L (ppb)	Sample Results µg/L (ppb)
Antimony	5.0	 N.D.
Arsenic	4.0	 4.1
Beryllium	5.0	 N.D.
Cadmium	5.0	 N.D.
Chromium	10	 N.Ď.
opper	30	 N.Ď.
L-ead.	2.0	 N.D.
Mercury	1.0	 N.D.
Nickel	30	 ИD
Selenium	5.0	 ND
	20	ND
Silver Thallium	2.0	 ND
Zinc	20	 N D

Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL Inc.

Laura Dutton Project Manager

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Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Timothy Huntting

Éscaraban da ang atao at a minimara na atao at ma

Client Project ID: Vanguard Properties Sample Descript: MW-2

Analysis Method: EPA 6010/7000 Sample Number: B509465-02 Sample Matrix: Water

Sampled: Sep 19, 1995 Sep 25, 1995 Received: Sep 27, 1995 Digested:

Analyzed: Sep 27-29, 1995 Reported: Oct 10, 1995.

E.P.A. PRIORITY METALS

Analyte	Reporting Limit μg/L (ppb)	t	Sample Results µg/L (ppb)
Antimony	5.0	***************************************	. N.D.
Arsenić	4.0	4.	. 5.4
Beryllium	5.0		. N .D.
Cadmium	5.0		. N.D.
Chromium	10	***************************************	. N.D.
opper	30	***************************************	. N.D.
Lead	2.0		. N.D.
Mercury	1.0	***************************************	. N .Ď.
Nickel	30		. N.D.
Selenium	5.0		. N .D.
Silver	20		. N .D.
Thallium	2.0		. N.D.
Zinc	20		. N.D.

Analytes reported as N.D. were not detected above the stated Reporting Limit,

NORTH CREEK ANALYTICAL Inc.

Laura Dutton Project Manager

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9405 S.W. Nimbus Avenue • Beaverton. OR 97008-7132 (503) 643-9200 • FAX 644-2202

(ED2) 642 0200 - FAV 644 2202

Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Timothy Huntting

Client Project ID: Sample Descript: Analysis Method:

Vanguard Properties MW-3

EPA 6010/7000 B509465-03

Sample Number: B5094 Sample Matrix: Water Sampled: Sep 20, 1995 Received: Sep 25, 1995 Digested: Sep 27, 1995 Analyzed: Sep 27-29, 1995

Oct 10, 1995

Reported:

E.P.A. PRIORITY METALS

Analyte	Reporting Limit μg/L (ppb)	:	Sample Results µg/L (ppb)
Antimony	5.0		
Arsenic	4.0	***************************************	
Beryllium	5.0		. N.D.
Cadmium	5.0		. N.D.
Chromium	10	***************************************	. N.D.
opper	30	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	. N.D.
Lead	2.0		
Mercury	1.0		
Nickel	30		. N.D.
Selenium	5.0		
Silver	20		. N.D.
Thallium	2.0		. N.D.
Zinc	20		. N.D.

Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL Inc.

James Dutton

Laura Dutton Project Manager



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Landau Associates 23107 100th Avenue W. Edmonds, WA 98020

Attention: Timothy Huntting

Soluteralia de tras estrateras de tras de tras de la como de como de como de como de como de como de como de c

Client Project ID: Vanguard Properties

Sample Descript: Method Blank Analysis Method: EPA 6010/7000 Sample Number: BLK092795

Sample Matrix: Water Digested: Sep 27, 1995 Analyzed: Sep 27-29, 1995

Reported: Oct 10, 1995 HERO, MARION CHARLESTON LINEAR

Ē.P.A. PRIORITY METALS

Analyte	Reporting Limit μg/L (ppb)		Sample Results µg/L (ppb)
Antimony	5.0		N.D.
Arsenic	4.0		N.D.
Beryllium	5.0	***************************************	N.D.
Cadmium	5.0		N.Ď.
Chromium	10 .		N.D.
Jopper	20		N.D.
Lead	0.0		N.D.
Mercury	1.0=		N.D.
Nickel	30		N.D.
Selenium	ĖΛ		ND
Silver	00		NÕ
Thallium	0.0		NE
Zinc	20	***************************************	ND

Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL Inc.

Laura Dutton **Project Manager**

Lacua Outton



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Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Timothy Huntting Client Project ID: Vanguard Properties

Sample Matrix: Water

TKANTING NAMBANG KUMATUNG NA TANTAN NA TANTAN PENGHANAN NANGONG KAWA DINI DANTAN TANTAK NAMBAN TANTAK WANTI T

Units: µg/L (ppb)

Analyst:

K. Gendron S. Davis

Digested:

Sep 27, 1995

Reported: Oct 10, 1995

METALS QUALITY CONTROL DATA REPORT

CANAL WEE	····					 :	
ANALYTE	Sb	As	Be	Čd	Cr	Cu	Pb
EPA Method: Date Analyzed:	7041 Oct 4, 1995	7060 Şep 28, 1995	7740 Oct 2, 1995	6010 Sep 29, 1995	6010 Sep 29, 1995	6010 Sep 29, 1995	7421 Sep 28, 1995
CCURACY ASSESS	SMENT						
LCS Spike Conc. Added:	50	50	25	1,000	1,000	1,000	25
LCS Spike Result:	52	65	26	920	1,010	950	28.3
LCS Spike % Recovery:	104	129	96	. 92	101	95	113
Upper Control Limit:	166	132	136	108	104	106	122
Lower Control Limit:	31	84	66	62	69	76	88
Matrix Spike Sample #:	B509611-03	B509435-01	B509465-01	B509465-01	B509465-01	Ē509465-01	B509435-01
Matrix Spike % Recovery:	99	118/119	114	87	96	90	111/114
PRECISION ASSESS	BMENT						
Sample #:	B509611-03	B509435-01	B509465-01	B509465-01	B509465-01	B509465-01	B509435-01
Original:	N.D.	9.7	N.D.	N.D.	N.D.	N.D.	N.D.
Duplicate:	N.D.	6.7	N.D.	N.D.	N.D.	N.D.	N.D.
Relative % Difference:	RPD values are not re	ported at sample cond	centration levels <1	0 X the Reportin	ng Limit.		

NORTH CREEK ANALYTICAL In Lab Control Sample

Jama Dutter

Laura Dutton Project Manager

x 100 Conc. of L.C.S. L.C.S. Spike Conc. Added % Recovery:

Original Result - Duplicate Result (Original Result + Duplicate Result) / 2 Relative % Difference:



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Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Timothy Huntting Client Project ID: Vanguard Properties

Sample Matrix : Water

Rightersking væreten noværtignerelle i der slutt, i hændidte noværeste finntær ænd tinnt i de skil vin fræ ef

Units: µg/L (ppb)

Analyst:

K. Gendron

S. Davis

Digested:

Sep 27, 1995

Oct 10, 1995 Reported:

METALS QUALITY CONTROL DATA REPORT

				·		
ANALYTE	Hğ	Ni	Se	Ag	TI	Zn
EPA Method; Date Analyzed:	7470 Sep 27, 1995	6010 Sep 29, 1995	7740 Oct 2, 1995	7760 Sep 27, 1995	7841 Oct 5, 1995	6010 Sep 29, 1995
CURACY ASSESS	SMENT					
LCS Spike Conc. Added:	5.0	1,000	25	250	30	1,000
LCS Spike Result:	4.8	970	26	240	24	960
LCS Spike % Recovery:	96	97	96	96	80	96
Upper Control Limit:	127	105	136	122	140	105
_ower Control Limit:	81	61	66	64	42	64
Matrix Spike Sample #:	B509465-01	B509465-01	B509465-01	B509465-0	B509465-0	B509465-01
Matrix Spike % Recovery:	91	91	114	92	100	93
RECISION ASSESS	BMENT			•		
Sample #:	B509465-01	B509465-01	B509465-01	B509465-0	B509465-0	B509465-01
Original:	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Duplicate:	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Relative % Difference:	RPD values are not re	eported at sample cond	centration levels <1	IO X the Reporti	ng Limit.	

NORTH CREEK ANALYTICAL In Lab Control Sample

Conc. of L.C.S.

x 100

% Recovery:

L.C.S. Spike Conc. Added

Relative % Difference:

Original Result - Duplicate Result (Original Result + Duplicate Result) / 2

Laura Dutton **Project Manager**

Yama Dutter



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Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Timothy Huntting Client Project ID: Vanguard Properties

Sample Matrix: Water

Units: µg/L (ppb)

Analyst:

K. Gendron

S. Davis

Digested:

Sep 27, 1995

Reported:

Oct 10, 1995

METALS QUALITY CONTROL DATA REPORT

ANALYTE	Sb	As
EPA Method: Date Analyzed:	7041 Oct 4, 1995	7060 Sep 28, 1995
CCURACY ASSESS	MENT	
LCS Spike Conc. Added:	50	50
LCS Spike Result:	52	65
LCS Spike % Recovery:	104	129
Upper Control Limit:	166	132
Lower Control Limit:	31	84
Matrix Spike Sample #:	B509611-03	B509435-01
Matrix Spike % Recovery:	99	102
PRECISION ASSESS	MENT	
Sample #:	B509611-03	B509435-01
Original:	N.D.	N.D.
Duplicate:	N.D.	N.D.
Relative % Difference:	RPD values are not re	ported ät sample concen

NORTH CREEK ANALYTICAL In Lab Control Sample

Laura Dutter

Laura Dutton Project Manager

Conc. of L.C.S. L.C.S. Spike Conc. Added % Recovery:

Original Result - Duplicate Result x 100 Relative % Difference: (Original Result + Duplicate Result) / 2

x 100



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Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Timothy Huntting Client Project ID: Vanguard Properties
Sample Descript: Water, MW-1
Analysis Method: EPA 8260
Sample Number: B509465-01

Sampled: Sep 21, 1995 Received: Sep 25, 1995 Analyzed: Sep 25, 1995 Reported: Oct 10, 1995

Analyte	Reporting Limit µg/L (ppb)	t	Sample Results µg/L (ppb)
Benzene	1.0		. N.D.
Bromobenzene	1.0		. N.D.
Bromochloromethane	1.0		. N.Ď.
Bromodichloromethane	1.0		. N.Ď.
¯rōmoform	1.0		. N.D.
romomethane	1,0		. N.D.
n-Butylbenzene	1.0		. N.D.
sec-Butylbenzene	1.0		NÃ
tert-Butylbenzene	1.0		AL C
Carbon tetrachloride	1.0		
Chlorobenzene	1.0		NI D
Chloroethane	1.0		N. D.
Chloroform	1.0		NI D
Chloromethane	1.0		11.5
2-Chlorotoluene	1.0		NÖ
	1.0		N D
4-ChlorotolueneDibromochloromethane	1.0		N. D.
	1.0		N.O.
1,2-Dibromo-3-chloropropane	1.0	***************************************	N.D.
1,2-Dibromoethane	1.0		N.D.
Dibromomethane	1.0		N.B.
1,2-Dichlorobenzene			NÖ
1,3-Dichlorobenzene	1.0		N. D.
1,4-Dichlorobenzene	1.0		N.D.
ichlorodifluoromethane	1.0		
ı,1-Dichloroethane	1.0		
1,2-Dichloroethane	1.0		
1,1-Dichloroethene	1.0		
cis-1,2-Dichloroethene	1.0		
trans-1,2-Dichloroethene	1.0		
1,2-Dichloropropane	1.0		
1,3-Dichloropropane	1.0		
2,2-Dichloropropane	1.0		
1,1-Dichloropropene	1.0		
Ethyl Benzene	1.0	,	
Hexachlorobutadiene	1.0		
Isopropylbenzene	1.0		
p-Isopropyltoluene	1.0		
Methylene chloride	5.0		. N .D.



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Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Timothy Huntting Client Project ID: Vanguard Properties Sample Descript: Water, MW-1 Analysis Method: EPA 8260 Sample Number: B509465-01

Sampled: Sep 21, 1995
Received: Sep 25, 1995
Analyzed: Sep 25, 1995
Reported: Oct 10, 1995

VOLATILE ORGANIC COMPOUNDS

Analyte	Reporting Limit µg/L (ppb)	Sample Results µg/L (ppb)
Naphthalene	1.0 1.0 1.0 1.0 1.0 1.0 1.0	μg/L (ppo) N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.
Vinyl chlorideo-Xylenem,p-Xylene	1.0 1.0 1.0	 . N.D. . N.D.

•		0
		Control
Surrogate Standards Percent Recovery:		Limits
1,2-Dichloroethane-d4	83	76-114
Toluene-d8	99	88-110
4-Bromofluorobenzene	90	86-115

Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL Inc.

Laura Dutton Project Manager

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Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Timothy Huntting Client Project ID: Vanguard Properties Sample Descript: Water, MW-2 Analysis Method: EPA 8260 Sample Number: B509465-02

Sampled: Sep 19, 1995
Received: Sep 25, 1995
Analyzed: Sep 25, 1995
Reported: Oct 10, 1995

Analyte	Reporting Limit μg/L (ppb)		Sample Result μg/L (ppb)
Benzene	1.0		
Bromobenzene	1.0		
Bromochloromethane	1.0		. N.D.
Bromodichloromethane	1.0		. N.D.
¬romoform	1.0		. N.D.
romomethane	1.0	***************************************	. N.D.
n-Butylbenzene	1.0		. N .Ď.
sec-Butylbenzene	1.0	***************************************	. N.D.
tert-Butylbenzene	1.0	***********	. N .Ō.
Carbon tetrachloride	1.0	***************************************	. N.D.
Chlorobenzene	1.0		. N.D.
Chloroethane	1.0		. N.D.
Chloroform	1.0		. N.D.
Chloromethane	1.0		. N.D.
2-Chlorotoluene	1.0		. N.D.
4-Chlorotoluene	1.0		. N.Ď.
Dibromochloromethane	1.0		. N.D.
1,2-Dibromo-3-chloropropane	1.0		. N.D.
1,2-Dibromoethane	1.0		. N.D.
Dibromomethane	1.0		. N.D.
1,2-Dichlorobenzene	1.0		. N.D.
1,3-Dichlorobenzene	1.0		. N.D.
1,4-Dichlorobenzene	1.0		. N.D.
ichlorodifluoromethane	1.0		
1,1-Dichloroethane	1.0		NÓ
1,2-Dichloroethane	1.0		N.D.
1,1-Dichloroethene	1.0		
cis-1,2-Dichloroethene	1.0		N. D
trans-1,2-Dichloroethene	1.0		N Š
1,2-Dichloropropane	1.0		
1,3-Dichloropropane	1.0		41.5
2,2-Dichloropropane	1.0		
1,1-Dichloropropene	1.0		N.D.
Ethyl Benzene	1.0		ND
	1.0		
Hexachlorobutadiene	1.0		N.D.
Isopropylbelyene	1.0		NB
p-isopropyltoluene	5.0		N D
Methylene chloride	Ş.U		. 14.0.



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23107 100th Avenue W. Edmonds, WA 98020 Attention: Timothy Huntting

Landau Associates

Client Project ID: Sample Descript: Water, MW-2

Vanguard Properties Analysis Method: EPA 8260 B509465-02 Sample Number:

Sep 19, 1995 Sampled: Sep 25, 1995 Received: Sep 25, 1995 Analyzed: Oct 10, 1995 Reported:

VOLATILE ORGANIC COMPOUNDS

Analyte	Reporting Limit µg/L (ppb)		Sample Results μg/L (ppb)
Nonkthalana	1.0		. N.D.
Naphthalene	1.0		. N.D.
n-Propylbenzene	1.0		. N.D.
Styrene	1.0		. N.Ď.
1,1,1,2-Tetrachloroethane	1.0	***************************************	N.D.
1,2,2-Tetrachloroethane			ND
etrachloroethene	1.0		N.D.
Toluene	1.0		ND
1,2,3-Trichlorobenzene	1.0		N.D.
1.2.4-Trichlorobenzene	1.0		
1.1.1-Trichloroethane	1.0		
1.1,2-Trichloroethane	1.0		
Trichloroethene	1.0		
Trichlorofluoromethane	1.0		
	1.0		, N.D.
1,2,3-Trichloropropane	1.0		. N.D.
1,2,4-Trimethylbenzene	1.0		. N.D.
1,3,5-Trimethylbenzene	1.0		N.D.
Vinyl chloride			ND
o-Xylene	1.0		. N.D.
m.p-Xylene	1.0		, H.D.

		Control
Surrogate Standards Percent Recovery:		Limits
1.2-Dichloroethane-d4	87	76-114
Toluene-d8	99	88-110
4-Bromofluorobenzene	90	86-115

Analytes reported as N.D. were not detected above the stated Reporting Limit.

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Laura Dutton Project Manager

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Landau Associates Client Pro 23107 100th Avenue W. Sample D Edmonds, WA 98020 Analysis Attention: Timothy Huntting Sample N

Client Project ID: Vanguard Properties Sample Descript: Water, MW-3 Analysis Method: EPA 8260 Sample Number: B509465-03

es Sampled: Sep 20, 1995 Received: Sep 25, 1995 Analyzed: Sep 25, 1995 Reported: Oct 10, 1995

Analyte	Reporting Limit μg/L (ppb)		Sample Results µg/L (ppb)
Benzene	1.0		
Bromobenzene	1.0	***************************************	
Bromochloromethane	1.0		. N. <u>D</u> .
Bromodichloromethane	1.0		. N.D.
¬romoform	1.0		. N .D.
romomethane	1.0		. N .Ū.
n-Butylbenzene	1.0	***************************************	. N.D.
sec-Butylbenzene	1.0	***************************************	. N .D.
tert-Butylbenzene	1.0		. N.D.
Carbon tetrachloride	1.0	************	. N.D.
Chlorobenzene	1.0		. N.D.
Chloroethane	1.0	***************************************	. N.D.
Chloroform	1.0		. N.D.
Chloromethane	1.0		. N.D.
2-Chlorotoluene	1.0	***************************************	. N.D.
4-Chlorotoluene	1.0		. N.D.
Dibromochloromethane	1.0		. N.D.
1,2-Dibromo-3-chloropropane	1.0		. N.D.
1,2-Dibromoethane	1.0		. N.D.
Dibromomethane	1.0		. N.D.
1,2-Dichlorobenzene	1.0		. N.D.
1,3-Dichlorobenzene	1.0		. N.D.
1,4-Dichlorobenzene	1.0		. N.D.
chlorodifluoromethane	1.0		. N.D.
,,1-Dichloroethane	1.0		. N.D.
1,2-Dichloroethane	1.0		. N.D.
1,1-Dichloroethene	1.0		. N.D.
cis-1,2-Dichloroethene	1.0		. N.D.
trans-1,2-Dichloroethene	1.0		. N.D.
1,2-Dichloropropane	1.0		. N.D.
1,3-Dichloropropane	1.0		. N.D.
2,2-Dichloropropane	1.0		. N.D.
1,1-Dichloropropene	1.0		N O
Ethyl Benzene	1.0		. N.D.
Hexachlorobutadiene	1.0		· N.D.
Isopropylbenzene	1.0		NA
p-Isopropyltoluene	1.0		NB
Methylene chloride	5.0		N Ö



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Client Project ID: Vanguard Properties Sep 20, 1995 Landau Associates Sampled: Sample Descript: Water, MW-3 Received: Sep 25, 1995 23107 100th Avenue W. Ēdmonds, WA 98020 Analysis Method: EPA 8260 Analyzed: Sep 25, 1995 Reported: Oct 10, 1995 Attention: Timothy Huntting Sample Number: B509465-03

VOLATILE ORGANIC COMPOUNDS

Analyte	Reporting Limit μg/L (ppb)	l .	Sample Results μg/L (ppb)
Naphthalene	1.0		N.D.
n-Propylbenzene	1.0		N.D.
Styrene	1.0		N.D.
1,1,1,2-Tetrachloroethane	1.0		N.D.
1,2,2-Tetrachloroethane	1.0		N.D.
etrachloroethene	1.0		N.D.
Toluene	1.0	***************************************	N.D.
1,2,3-Trichlorobenzene	1.0	***************************************	N.D.
1,2,4-Trichlorobenzene	1.0	***************************************	N.Ď.
1,1,1-Trichloroethane	1.0		N.D.
1,1,2-Trichloroethane	1.0		N.D.
Trichloroethene	1.0		N.D.
Trichlorofluoromethane	1.0		N.D.
1,2,3-Trichloropropane	1.0		N.D.
1,2,4-Trimethylbenzene	1.0	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	N.D.
1,3,5-Trimethylbenzene	1.0		N.D.
Vinyl chloride	1.0		N.D.
o-Xylene	1.0		N.D.
m,p-Xylene	1.0		N.D.

		Control			
Surrogate Standards Percent Recovery:	Limits				
1,2-Dichloroethane-d4	92	76-114			
Toluene-d8	100	88-110			
4-Bromoflyorobenzene	91	86-115			

Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL Inc.

Laura Dutton Project Manager

Laura Dutton

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Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Timothy Huntting Client Project ID: Vanguard Properties

Sample Descript: Method Blank

Analysis Method: EPA 8260 Analyzed: Sep 25, 1995 Sample Number: BLK092595 Reported: Oct 10, 1995

Analyte	Reporting Limit μg/L (ppb)	:	Sample Results µg/L (ppb)
Benzene	1.0		
Bromobenzene	1.0		
Bromochloromethane	1.0		. N.D.
Bromodichloromethane	1.0		
¬romoform	. 1.0		
romomethane	1.0		. N.D.
n-Butylbenzene	1.0		. N.D.
sec-Butylbenzene	1.0		. N.D.
tert-Butylbenzene	1.0		. N.D.
Carbon tetrachloride	1.0		. N.D.
Chlorobenzene	1.0		. N.D.
Chloroethane	1.0		
Chloroform	1.0	***************************************	. N.Ď.
Chioromethane	1.0		. N.D.
2-Chlorotoluene	1.0		. N.D.
4-Chlorotoluene	1.0		. N.D.
Dibromochloromethane	1.0	•••••	. N.D.
1,2-Dibromo-3-chloropropane	1.0		. N.D.
1,2-Dibromoethane	1.0		, N .D.
Dibromomethane	1.0		. N.D.
1,2-Dichlorobenzene	1.0		. N.D.
1,3-Dichlorobenzene	1.0		. N.D.
1,4-Dichlorobenzene	1.0		. N.D.
ichlorodifluoromethane	1.0		. N.D.
1,1-Dichloroethane	1.0		. N.D.
1,2-Dichloroethane	1.0		, N.D.
1,1-Dichloroethene.	1.0		. N.D.
cis-1,2-Dichloroethene	1.0		. N.D.
trans-1,2-Dichloroethene	1.0		. N.D.
1,2-Dichloropropane	1.0		. N.D.
1,3-Dichloropropane	1.0		. N.D.
2,2-Dichloropropane	1.0		. N.Ď.
1,1-Dichloropropene	1.0		. N.D.
Ethyl Benzene	1.0		. N.D.
Hexachlorobutadiene	1.0		. N.D.
Isopropylbenzene	1.0		. N.D.
p-Isopropyltöluéne	1.0		. N.D.
Methylene chloride	5.0		. N.D.



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9405 S.W. Nimbus Avenue • Beaverton. OR 97008-7132 (5

(503) 643-9200 • FAX 644-2202

Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Timothy Huntting Client Project ID: Vanguard Properties

Sample Descript: Method Blank

Analysis Method: EPA 8260 Sample Number: BLK092595 Analyzed: Sep Reported: Oc

Sep 25, 1995 Oct 10, 1995

VOLATILE ORGANIC COMPOUNDS

Analyte	Reporting Limit μg/L (ppb)	Sample Results μg/L (ppb)
Naphthalene	1.0 1.0	 . N.D. . N.Ď.
n-PropylbenzeneStyrene	1.0	 N.D.
1,1,1,2-Tetrachloroethane	1.0 1.0	 . N.D. N.D
1,2,2-Tetrachloroethaneetrachloroethene	1.0	 . N.D.
Toluene	1.0 1.0	 . N.D. N.D
1,2,3-Trichlorobenzene	1.0	 N.D.
1,1,1-Trichloroethane	1.0 1.0	 . N.D. . N.D.
1,1,2-Trichloroethane	1.0	 ND
Trichlorofluoromethane	1.0 1.0	 . N.D. . N.D.
1,2,3-Trichloropropane	1.0	 . N.D.
1,3,5-Trimethylbenzene	1.0 1.0	 . N.D. N.D.
Vinyl chloride o-Xylene	1.0	 . N.D.
m,p-Xylene	1.0	 . N .D.

Surrogate Standards Percent Recovery		Control Limits
1,2-Dichloroethane-d4	86	76-114
Toluene-d8	98	88-110
4-Bromofluorobenzene	90	86-115

Analyte's reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL Inc.

Laura Dutton Project Manager

Sama Dutter

Page 2 of 2



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(503) 643-9200 • FAX 644-2202

Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Timothy Huntting Client Project ID: Vanguard Properties

Sample Matrix: Water Analysis Method: EPA 8260

Units: µg/L (ppb)

QC Sample #: B509435-09

Analyst:

R. Lister

Analyzed:

Sep 25, 1995

Reported:

Oct 10, 1995

MATRIX SPIKE QUALITY CONTROL DATA REPORT

1,1-DCE	Benzene	TCE	Toluene	Chloro- benzene			
:': = : = :	<u> </u>	27					
N.D.	N.D.	N.D.	N.D.	N.D.			
10.0	10.0	10.0	10.0	10.0			
7.0	9.1	9.8	9.6	9.8			
70%	91%	98%	96%	98%			
6.4	8.9	9.6	9.3	9.8			
64%	89%	96%	93%	98%			
140	125	114	117	112			
30	76	79	89	91			
9.4%	2.2%	2.1%	3.2%	0.0%			
10	10	10	10	10			
ALYTICAL in [% Recovery:	Spike	Result - Sample	Result	x 100	 	
	10.0 7.0 70% 6.4 64% 140 30 9.4% 10	N.D. N.D. 10.0 10.0 7.0 9.1 70% 91% 6.4 8.9 64% 89% 140 125 30 76 9.4% 2.2%	N.D. N.D. 10.0 10.0 7.0 9.1 70% 91% 98% 6.4 8.9 96% 140 125 114 30 76 79 9.4% 2.2% 2.1% 10 10 ALYTICAL In [% Recovery: Spike	N.D. N.D. N.D. N.D. 10.0 10.0 10.0 10.0 7.0 9.1 9.8 9.6 70% 91% 98% 96% 6.4 8.9 9.6 9.3 64% 89% 96% 93% 140 125 114 117 30 76 79 89 9.4% 2.2% 2.1% 3.2% 10 10 10 10 ALYTICAL In [% Recovery: Spike Result - Sample	N.D. 9.8 9.8 6.4 8.9 9.8 9.6 9.3 9.8 9.8 9.8 9.8 9.8 9.8 9.8 9.8 9.8 9.8 <	1.1-DCE Benzene TCE Toluene benzene N.D. N.D. N.D. N.D. 10.0 10.0 10.0 10.0 7.0 9.1 9.8 9.6 9.8 70% 91% 98% 96% 98% 6.4 8.9 9.6 9.3 9.8 64% 89% 96% 93% 98% 140 125 114 117 112 30 76 79 89 91 9.4% 2.2% 2.1% 3.2% 0.0% 10 10 10 10 10 ALYTICAL In [% Recovery: Spike Result - Sample Result × 100	N.D. N.D. N.D. N.D. N.D. N.D. 10.0 10.0 10.0 10.0 10.0 7.0 9.1 9.8 9.6 9.8 70% 91% 98% 96% 98% 6.4 8.9 9.6 9.3 9.8 64% 89% 96% 93% 98% 140 125 114 117 112 30 76 79 89 91 9.4% 2.2% 2.1% 3.2% 0.0% 10 10 10 10 10 ALYTICAL In [% Recovery: Spike Result · Sample Result · Sample Result × 100

Quenzuttin

Laura Dutton Project Manager Spike Conc. Added

Relative % Difference:

Spike Result - Spike Dup. Result (Spike Result + Spike Dup. Result) / 2

x 100

LANDAU ASSOCIATES, INC. Edmonds, WA (206) 778-0907 FAX (206)778-6409

Chain-of-Custody Record Nº 2156

Project W1	NLOCK I	WOOD	PRODUCTOD NO. 281	001.32	-			\mathcal{T}		*	Tes	ting	Para	met	ers				
	Client VANGUARD PROPERTIES																		
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				No. of	/ 3	9/1	\$%												
Sample No.	Date	Time	Location	Containers	f	د_/	<u> </u>	7-1	{/	$\frac{1}{2}$	/ 	/ 	/ _	_	/			ns/Commer	
WM-1	9/21/95	16:30	GLONDUATER		X	X	X				<u> 5.0</u>	9 2	1,45		1152 5	18546			STANDOR
MW-Z	9/19/95	15.40	GROWN WAGER	5	Y.	X	X		_	\dashv			ئــا	7	ţt	! .	··· ·	1 ("
MW-3	9/20/95	13:55	GROWN DIBR	5	Ź	X	Ϋ́		_	_			<u> </u>	-	"(ч		<u>''</u>	(1
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9405 S.W. Nimbus Avenue • Beaverton, OR 97008-7132 (503) 643-9200 • FAX 644-2202

Landau Associates 23107 100th Avenue W.

Edmonds, WA 98020 Attention: Tim Huntting Client Project ID:

Winlock Wood Products

Sample Matrix: Water

Analysis Method:

WTPH-418.1

First Sample #:

B505144-37

Sampled: Received:

May 4, 1995 May 5, 1995

Extracted:

May 8, 1995

Analyzed: Reported:

May 8, 1995 May 23, 1995

TOTAL PETROLEUM HYDROCARBONS-OIL RANGE

Sample Number	Sample Description	Sample Result mg/L (ppm)
₿505144-3₹	MW-2 5/3/95	N.Ď.
B505144-44	MW-1	N.D.
B505144-45	MW-3	N.D.
BLK050895	Method Blank	N.D.

Reporting Limit:

1.0

Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL Inc.

Yama Dutter

Laura Dutton Project Manager



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Landau Associates 23107 100th Avenue W.

Edmonds, WA 98020 Attention: Tim Huntting Client Project ID: Winlock Wood Products

Sample Matrix: Water

Analysis Method: WTPH-418.1

Units: mg/L (ppm)

Analyst:

T. Rubalcava

Extracted: Analyzed: May 8, 1995 May 8, 1995

Reported:

May 23, 1995

HYDROCARBON QUALITY CONTROL DATA REPORT

ACCURACY ASSESSMENT Laboratory Control Sample

Petroleum

Oil

Spike Conc.

Added:

4.2

Spike

Result:

4.0

%

Recovery:

95

Upper Control

Limit %:

134

Lower Control

Limit %:

63

PRECISION ASSESSMENT

Sample Duplicate Petroleum

Oil

Sample

Number: B505140-06

Original

Result:

N.D.

Duplicate

Resuit:

N.D.

Relative Relative Percent Difference values are not

% Difference: reported at sample concentration levels

less than ten times the Detection Limit.

Maximum

RPD:

44

NORTH CREEK ANALYTICAL Inc.

% Recovery:

Spike Result Spike Concentration Added x 100

Relative % Difference:

Original Result - Duplicate Result

x 100

(Original Result + Duplicate Result) / 2

B505144.LAN <18>

Laura Dutton **Project Manager**

Viena Butter



Landau Associates

23107 100th Avenue W.

Edmonds, WA 98020

Attention: Tim Huntting

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(206) 481-9200 • FAX 485-2992

(509) 924-9200 • FAX 924-9290 (503) 643-9200 • FAX 644-2202

May 4, 1995 Winlock Wood Products Sampled: Received: May 5, 1995

Digested: May 10-12, 1995 Analysis Method: EPA 6010/7000 Analyzed: May 11-12, 1995 Sample Number: B505144-37 Reported: May 23, 1995 Sample Matrix: Water

E.P.A. PRIORITY METALS

MW-2

Client Project ID:

Sample Descript:

Ånälyte	Reporting Limit μg/L (ppb)		Sample Results µg/L (ppb)
Antimony	100		N.D.
Arsenic	200		N.D.
Beryllium	5.0	***************************************	N.D.
Cadmium	5.0		N.D.
Chromium	10		N.D.
opper	30		N.D.
Lead	200		N.D.
Mercury	1.0		N.D.
Nickel	30		N.D.
Selenium	150		N.D.
Silver	20		N.Ď.
Thallium	200		N.D.
Zinc	20		N.D.

Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL Inc.

Yama Duttm Laura Dutton

Project Manager

B505144.LAN <19>



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Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Tim Huntting

Client Project ID:

Winlock Wood Products

MW-1

Sample Descript: Analysis Method: Sample Number:

EPA 6010/7000 B505144-44

Sample Matrix: Water Sampled:

May 4, 1995

Received:

May 5, 1995

Digested: May 10-12, 1995 Analyzed: May 11-12, 1995

May 23, 199 Reported:

E.P.A. PRIORITY METALS

Analyte	Reporting Limit µg/L (ppb)		Sample Results µg/L (ppb)
Antimony	100		N.Ď.
Arsenic	200		N.D.
Beryllium	5.0		N.D.
Cadmium	5.0	***************************************	N.D.
Chromium	10 .		N.D.
Sopper	30	***************************************	N.D.
Lead	200		N.D.
Mercury	1:0	.,	N.D.
Nickél	30	***************************************	N.D.
Selenium	150		N.D.
Silver	20		N.D.
Thallium	200		N.D.
Zinc	20		N.D.

Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL Inc.

Nuna Butten.

Laura Dutton **Project Manager**



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Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Tim Huntting

Client Project ID: Sample Descript:

Winlock Wood Products

MW-3

Analysis Method: Sample Number: EPA 6010/7000 B505144-45

Sample Matrix: Water

Sampled:

May 4, 1995

Received: May 5, 1995 Digested: May 10-12, 1995

Analyzed: May 11-12, 1995

Reported: May 23, 1995

E.P.A. PRIORITY METALS

Analyte	Reporting Limit μg/L (ppb)		Sample Results µg/L (ppb)
Antimony	100		N.D.
Arsenic	200		N.D.
Beryllium	5.0		N.D.
Cadmium	5.0	***************************************	N.Ď.
Chromium		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	N.D.
- Copper			N.D.
Lead	000		N.D.
Mercury	1.0		N.Ď.
Nickel			N.D.
Selenium			N.D.
Silver			N.D.
Thallium			N.Ď.
_ Zinc			N.Ď.

Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL Inc.

Laura Dutten

Laura Dutton Project Manager



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(503) 643-9200 • FAX 644-2202

Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Tim Huntting

Client Project ID:

Winlock Wood Products

Sample Descript: Analysis Method: Method Blank EPA 6010/7000

Sample Number: Sample Matrix:

BLK051095

Water

Digested: May 10-12, 1995 Analyzed: May 11-12, 1995

May 23, 1995 Reported:

E.P.A. PRIORITY METALS

Analyte	Reporting Limit µg/L (ppb)		Sample Results µg/L (ppb)
Antimony	100		N.D.
Arsenic	200		N.D.
Beryllium	5.0		N.D.
Cadmium	5.0		N.D.
Chromium	10		N.D.
Opper	30		N.D.
Lead	200	***************************************	N.D.
Mercury	1.0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	N.D.
Nickel	30	***************************************	N.D.
Selenium	150	,	N.D.
Silver	20	***************************************	N.D.
Thallium	200	***************************************	N.D.
Zinc	20		N.D.

Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL Inc.

Laura Dutton **Project Manager**

Yeurs Dutter



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Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Tim Huntting

Client Project ID: Winlock Wood Products

Sample Matrix: Water

Units: µg/L (ppb)

Analyst:

A. Shephard K. Gendron

Digested: May 10-12, 1995

Reported: May 23, 1995

METALS QUALITY CONTROL DATA REPORT

ANALYTE	Sb	As	Be	Cd	Cř	Cu	Рb
EPA Method: Date Analyzed:	6010 May 11, 1995	6010 May 11, 1 <u>9</u> 95	6010 May 11, 1995 I	6010 May 11, 1995	6010 May 11, 1995	6010 May 11, 1995	6010 May 11, 1999
CCURACY ASSESSI	MENT						
LCS Spike Conc. Added:	1,000	1,000	1,000	1,000	1,000	1,000	1,000
LCS Spike Result:	830	910	870	820	920	860	860
LCS Spike % Recovery:	83	91	87	82	92	86	86
Upper Control Limit:	106	120	105	108	104	106	110
Lower Control Limit:	70	62	62	62	69	76	61
Matrix Spike Sample #:	B505011-01	B505011-01	B505011-01	B505011-01	B505011-01	B505011-01	B505011-0
Matrix Spike % Recovery:	85	87	86	82	87	87	87
PRECISION ASSESSI	MENT						
Sample #:	B505011-01	B505011-01	B505011-01	B505011-01	B505011-01	B505011-01	B505011-0
Original:	N.D.	N.D.	N.D.	N.Ď.	N.D.	N.D.	N.D.
Duplicate:	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Relative % Difference:	Relative Percent Diffe	rence values are not re	eported at sample c	oncentration lev	els less than 10) times the Report	ing Limit.

NORTH CREEK ANALYTICAL Inc. Lab Control Sample

% Recovery:

Conc. of L.C.S. L.C.S. Spike Conc. Added x 100

Vienea Dutten

Laura Dutton Project Manager Relative % Difference:

Original Result - Duplicate Result

x 100

(Original Result + Duplicate Result) / 2

B505144.LAN <23>



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Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Tim Huntting

Client Project ID: Winlock Wood Products

Sample Matrix: Water

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Units: µg/L (ppb)

Analyst:

A. Shephard

K. Gendron

Digested: May 10-12, 1995

Reported: May 23, 1995

METALS QUALITY CONTROL DATA REPORT

·					
Hg	Ni	Se	Ag	ŤI	Žn
7470 Modified May 12, 1995	6010 May 11, 1995	6010 May 11, 1995	7760 May 11, 1995	6010 May 12, 1995	6010 May 11. 1995
SMENT					
5.00	1,000	1,000	250	1,000	1,000
5.06	860	850	230	840	850
101	86	85	92	84	85
127	105	122	122	106	105
81	83	82	94	78	84
B505011-01	B505011-01	B505011-01	B505011-01	B505011-01	B505011-01
100	83	82	94	78	84
SMENT					
B505011-01	B505011-01	B505011-01	B505011-01	B505011-01	B505011-01
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Relative Percent Differ	rence values are not re	ported at sample o	oncentration le	vels <10 X the R	eporting Limit.
	7470 Modified May 12. 1995 SMENT 5.00 5.06 101 127 81 B505011-01 100 SMENT B505011-01 N.D. N.D.	7470 Modified May 12, 1995 May 11, 1995 SMENT 5.00 1,000 5.06 860 101 86 127 105 81 83 B505011-01 B505011-01 100 83 SMENT B505011-01 B505011-01 N.D. N.D. N.D. N.D.	7470 Modified May 12, 1995 May 11, 1995 May	7470 Modified May 12, 1995 May 11, 1995 May	7470 Modified May 12. 1995 May 11, 1995 May 11, 1995 May 11. 1995 May 12. 1995 SMENT 5.00 1,000 1,000 250 1.000 5.06 860 850 230 840 101 86 85 92 84 127 105 122 122 106 81 83 82 94 78 B505011-01 B505011-01 B505011-01 B505011-01 100 83 82 94 78 SMENT B505011-01 B505011-01 B505011-01 B505011-01 N.D. N.D. N.D. N.D. N.D. N.D.

NORTH CREEK ANALYTICAL Inc. Lab Control Sample

Jacus Dutter

Laura Dutton **Project Manager**

Conc. of L.C.S. % Recovery:

L.C.S. Spike Conc. Added

Relative % Difference: Original Result - Duplicate Result x 100

(Original Result + Duplicate Result) / 2

x 100



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9405 S.W. Nimbus Avenue • Beaverton, OR 97008-7132 (503) 643-9200 • FAX 644-2202

Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Tim Huntting

Client Project ID:

Winlock Wood Products

Sample Descript: Water, MW-2 **EPA 8260**

Analysis Method: Sample Number: B505144-37 Sampled:

May 3, 1995

Received: Analyzed:

May 5, 1995 May 10, 1995

Reported: May 23, 1995

Analyte	Reporting Limit		Sample Results
	μg/L (ppb)		μg/L (ppb)
Benzene	1.0		N.D.
Bromobenzene	1.0		N.D.
Bromochloromethane	1.0		N.D.
Bromodichloromethane	1.0		N.D.
Sromoform	1.0		N.D.
■ Jromomethane	1.0		N.D.
n-Butylbenzene	1.0	***************************************	N.D.
sec-Butylbenzene			N.D.
tert-Butylbenzene			N.D.
Carbon tetrachloride			N.D.
Chlorobenzene		***************************************	N.Ō.
Chloroethane			N.D.
- Chloroform	1.0	,	N.D.
Chloromethane		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	N.D.
2-Chlorotoluene			N.D.
4-Chlorotoluene			N.D.
Dibromochloromethane	177		N.Ď.
1,2-Dibromo-3-chloropropane			N.D.
1,2-Dibromoethane			N.D.
Dibromomethane			N.D.
1,2-Dichlorobenzene			N.D.
1,3-Dichlorobenzene			N.D.
¹ 4-Dichlorobenzene			N.D.
ichlorodifluoromethane			N.D.
1,1-Dichloroethane			N.D.
1,2-Dichloroethane			N.D.
1,1-Dichloroethene			N.D.
cis-1,2-Dichloroethene			N.D.
trans-1,2-Dichloroethene			N.D.
1,2-Dichloropropane			N.D.
1,3-Dichloropropane	· · · · ·		N.D.
2,2-Dichloropropane			N.D.
1,1-Dichloropropene			N.D.
Ethyl Benzene			N.D.
Hexachlorobutadiene		***************************************	N.D.
Isopropylbenzene		***************************************	N.D.
		***************************************	N.D.
p-Isopropyltoluene			N.D.
Methylene chloride	, 5.0		14.0.



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(206) 481-9200 • FAX 485-2992

Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 '

Client Project ID:

Winlock Wood Products

Sampled: Received: May 3, 199

Sample Descript: Analysis Method:

Water, MW-2 **EPA 8260**

Analyzed:

May 5, 1995 May 10, 1995

Attention: Tim Huntting

Sample Number: B505144-37 Reported:

May 23, 199

VOLATILE ORGANIC COMPOUNDS

Analyte	Reporting Limit μg/L (ppb)	•	Sample Results µg/L (ppb)
Naphthalene	1.0		N.D.
n-Propylbenzene	1.0		N.D.
Styrene	1.0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	N.D.
1,1,1,2-Tetrachloroethane	1.0		N.D.
1,1,2,2-Tetrachloroethane	1.0	***************************************	N.D.
ëtrachloroethene	1.0	***************************************	N.Ō.
Toluene	1.0	***************************************	N.D.
1,2,3-Trichlorobenzene	1.0	***************************************	N.D.
1,2,4-Trichlorobenzene	1.0		N.D.
1,1,1-Trichloroethane	1.0	***************************************	N.Ď.
1,1,2-Trichloroethane	1.0		N.D.
Trichloroethene	1.0	***************************************	N.D.
Trichlorofluoromethane	1.0		N.D.
1,2,3-Trichloropropane	1.0		N.D.
1,2,4-Trimethylbenzene	1.0		N.D.
1,3,5-Trimethylbenzene	1.0		N.D.
Vinyl chloride	1.0		N.D.
o-Xylene	1.0		N.D.
m,p-Xylene	1.0		N.D.

		Control
Surrogate Standards Percent Recovery:		Limits
1,2-Dichloroethane-d4	137, S-4	76-114
Toluene-d8	102	88-110
4-Bromofluorobenzene	112	86-115

Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL Inc. Please Note:

S-4 = The Surrogate Recövery for 1,2-Dichloroethane-d4 is outside of method established control limits.

Laura Dutton **Project Manager**

Vama Dutter



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Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Tim Huntting

Client Project ID: Sample Descript: Winlock Wood Products

May 4, 1995

Analysis Method:

Water, MW-1 **EPA 8260**

Received: Analyzed:

Sampled:

May 5, 1995 May 10, 1995

Sample Number:

B505144-44

Reported:

May 23, 1995

Analyte	Reporting Limit μg/L (ppb)		Sample Results µg/L (ppb)
Benzene	1.0		N.D.
Bromobenzene	1.0	***************************************	N.D.
Bromochloromethane	1.0		N.D.
Bromodichloromethane	1.0		N.D.
Bromoform	1.0		N.D.
3romomethane	1.0		N.D.
n-Butylbenzene	1.0		N.D.
sec-Butylbenzene	1.0		N.D.
tert-Butylbenzene	1.0		N.D.
Carbon tetrachloride	1.0		N.D.
Chlorobenzene	1.0		N.D.
Chloroethane	1.0		N.D.
	1.0		N.D.
Chloroform	1.0	***************************************	N.D.
Chloromethane	1.0	***************************************	N.D.
2-Chlorotoluene	1.0	***************************************	N.D.
4-Chlorotoluene			N.D.
Dibromochloromethane	1.0		
1,2-Dibromo-3-chloropropane	1.0		N.D.
1,2-Dibromoethane	1.0		N.D.
Dibromomethane	1.0		N.D.
1,2-Dichlorobenzene	1.0		N.D.
1,3-Dichlorobenzene	1.0		N.D.
⁴ 4-Dichlorobenzene	1.0		N.D.
chlorodifluoromethane	1.0	•••••	N.D.
1,1-Dichloroethane	1.0	***************************************	N.D.
1,2-Dichloroethane	1.0	***************************************	N.D.
1,1-Dichloroethene	1.0		N.D.
cis-1,2-Dichloroethene	1.0		N.D.
trans-1,2-Dichloroethene	1.0		N.D.
1,2-Dichloropropane	1.0		N.D.
1,3-Dichloropropane	1.0		N.D.
2,2-Dichloropropane	1.0		N.D.
1,1-Dichloropropene	1.0		N.Ď.
Ethyl Benzene	1.0		N.D.
Hexachlorobutadiene	1.0		N.D.
Isopropylbenzene	1.0		N.D.
p-Isopropyltoluene	1.0		N.D.
Methylene chloride	5.0		N.D.



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Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Tim Huntting

Client Project ID:

Winlock Wood Products

Sampled: Received:

May 4, 1995

Sample Descript: Analysis Method: Water, MW-1 **EPA 8260**

Analyzed:

May 5, 1995 May 10, 1995

Sample Number:

B505144-44

Reported:

May 23, 1995

VOLATILE ORGANIC COMPOUNDS

Analyte	Reporting Limit		Sample Results
·	μg/L (ppb)		μg/L (ppb)
Naphthalene	1.0		N.D.
n-Propylbenzene	1.0		N.D.
Styrene	1.0		N.Ď.
1,1,1,2-Tetrachloroethane	1.0		N.D.
1,1,2,2-Tetrachloroethane	1.0		N.D.
etrachloroethene	1.0		N.D.
Toluene	1.0		N.D.
1,2,3-Trichlorobenzene	1.0		N.Ď.
1,2,4-Trichlorobenzene	1.0		N.D.
1,1,1-Trichloroethane	1.0		N.D.
1,1,2-Trichloroethane	1.0		N.D.
Trichloroethene	1.0		N.Ď.
Trichlorofluoromethane	1.0		N.D.
1,2,3-Trichloropropane	1.0		N.D.
1,2,4-Trimethylbenzene	1.0		N.D.
1,3,5-Trimethylbenzene	1.0		N.D.
Vinyl chloride	1.0		N.D.
o-Xylene	1.0		N.Ď.
m.p-Xvlene	1.0	***************************************	N.D.

		Control
Surrogate Standards Percent Recovery:		Limits
1,2-Dichloroethane-d4	132, S-4	76-114
Toluene-d8	100	88-110
4-Bromofluorobenzene	112	86-115

Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL Inc. Please Note:

S-4 = The Surrogate Recovery for 1,2-Dichloroethane-d4 is outside of method established control limits.

Laura Dutton Project Manager

Vana Dutten

Page 2 of 2

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Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Tim Huntting

Client Project ID:

Winlock Wood Products Water, MW-3

Sampled: Received:

May 4, 1995 May 5, 1995

Sample Descript: Analysis Method:

EPA 8260

Analyzed:

May 10, 1995 May 23, 1995

Sample Number:

B505144-45

Reported:

Analytē	Reporting Limit µg/L (ppb)		Sample Results µg/L (ppb)
Benzene	1.0		N.D.
Bromobenzene	1.0		N.D.
Bromochloromethane	1.0		N.D.
Bromodichloromethane	1.0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	N.D.
Bromoform	1.0		N.D.
3romomethane	1.0		N.D.
ñ-Butylbenzene	1.0	***************************************	N.D.
sec-Butylbenzene	1.0	***************************************	N.D.
tert-Butylbenzene	1.0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	N.D.
Carbon tetrachloride	1.0	******************************	N.Ď.
Chlorobenzene	1.0	***************************************	N.D.
Chloroethane	1.0	444444444444444444444444444444444444444	N.D.
■ Chloroform	1.0		N.D.
Chloromethane	1.0		N.D.
2-Chlorotoluene	1.0		N.D.
4-Chlorotoluene	1.0		N.D.
Dibromochloromethane	1.0		N.D.
1,2-Dibromo-3-chloropropane	1.0		N.D.
1,2-Dibromoethane	1.0		N.D.
_ Dibromomethane	1.0		N.D.
1,2-Dichlorobenzene	1.0		N.D.
1,3-Dichlorobenzene	1.0		N.D.
¹ 4-Dichlorobenzene	1.0		N.D.
chlorodifluoromethane	1.0		N.D.
1,1-Dichloroethane	1.0		N.D.
1,2-Dichloroethane	1.0		N.D.
1,1-Dichloroethene	1.0		N.D.
cis-1,2-Dichloroethene	1.0		N.D.
trans-1,2-Dichloroethene	1.0		N.D.
1,2-Dichloropropane	1.0		N.D.
	1.0		N.D.
1,3-Dichloropropane	1.0		N.D.
2,2-Dichloropropane	1.0		N.D.
1,1-Dichloropropene	1.0		N.D.
Ethyl Benzene	1.0	,	N.D.
Hexachlorobutadiene	1.0	*******************************	N.D.
Isopropylbenzene	1.0	***************************************	N.D.
p-Isopropyltoluene	5.0	***************************************	N.D.
Methylene chloride	บ.ต	•••••	יליאו



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(503) 643-9200 • FAX 644-2202

Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Tim Huntting

Client Project ID: Sample Descript: Winlock Wood Products

Water, MW-3

Analysis Method:

EPA 8260

Sample Number: B505144-45 Sampled:

May 4, 1995

Received: Analyzed:

May 5, 1995 May 10, 1995

Reported:

May 23, 199

VOLATILE ORGANIC COMPOUNDS

Analyte	Reporting Limit µg/L (ppb)		Sample Results µg/L (ppb)
Naphthalene	1.0		N.D.
n-Propylbenzene	1.0		N.D.
Styrene	1.0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	N.D.
1,1,1,2-Tetrachloroethane	1.0		N.D.
1,1,2,2-Tetrachloroethane	1.0		N.D.
. etrachloroethene	1.0		N.Ď.
Toluene	1.0		N.D.
1,2,3-Trichlorobenzene	1.0		N.D.
1,2,4-Trichlorobenzene	1.0	***************************************	N.D.
. 1,1,1-Trichloroethane	1.0		N.D.
1,1,2-Trichloroethane	1.0		N.D.
Trichloroethene	1.0	***************************************	N.D.
Trichlorofluoromethane	1.0	***************************************	N.D.
1,2,3-Trichloropropane	1.0		N.Ď.
1,2,4-Trimethylbenzene	1.0		N.D.
1,3,5-Trimethylbenzene	1.0		N.D.
Vinyl chloride	1.0	***************************************	N.D.
o-Xýlene	1.0		N.D.
m,p-Xylene	1.0		N.D.

Surrogate Standards Percent Recovery:		Control Limits
1,2-Dichloroethane-d4	85	76-114
Toluene-d8	100	88-110
4-Bromofluorobenzene	112	86-115

Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL Inc.

Jama Dutter

Laura Dutton Project Manager



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Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Tim Huntting

Client Project ID:

Winlock Wood Products

Sample Descript: Analysis Method: Method Blank EPA 8260

Sample Number:

BLK051095

Analyzed:

May 10, 1995

May 23, 1995 Reported:

Analyte	Reporting Limit		Sample Results
	μg/L (ppb)		μg/L (ppb)
Benzene	1.0		N.D.
Bromobenzene	1.0		N.D.
Bromochloromethane	1.0		N.Ď.
Bromodichloromethane	1.0		N.D.
Bromoform	1.0		N.D.
■ 3romomethane	1.0		N.D.
n-Butylbenzene	1.0		N.D.
sec-Butylbenzene	1.0		Ŋ.D.
tert-Butylbenzene	1.0		N.D.
Carbon tetrachloride	1.0		N.D.
Chlorobenzene	1.0		N.D.
Chloroethane	1.0		N.D.
Chloroform	1.0	***************************************	N.D.
Chloromethane	1.0		N.D.
2-Chlorotoluene	1.0		N.D.
4-Chlorotoluene	1.0		N.D.
Dibromochloromethäne	1.0		N.D.
1,2-Dibromo-3-chloropropane	1.0		N.Ū.
1,2-Dibromoethane	1.0		N.D.
_ Dibromomethane	1.0		N.D.
1,2-Dichlorobenzene	1.0		N.D.
1,3-Dichlorobenzene	1.0		N.D.
1 4-Dichlorobenzene	1.0		N.D.
chlorodifluoromethane	1.0		N.D.
1,1-Dichloroethane	1.0		N.D.
1,2-Dichloroethane	1.0		N.D.
1,1-Dichloroethene	1.0		N.D.
cis-1,2-Dichloroethene	1.0		N.D.
trans-1,2-Dichloroethene	1.0		N.D.
1,2-Dichloropropane	1.0		N.D.
1,3-Dichloropropane	1.0		N.D.
2,2-Dichloropropane	1.0		N.D.
1,1-Dichlöropropene	1.0		
Ethyl Benzene	1.0		N.D.
Hexachlorobutadiene	1.0		
Isopropylbenzene	1.0		N.D.
p-Isopropyltoluene	1.0		
Methylene chloride	5.0	,	N.D.
•••• · · · · · · · · · · · · · · · · ·			



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(309) 924-9200 • FAX 924-9290

(503) 643-9200 • FAX 644-2202

Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Tim Huntting Client Project ID:

Winlock Wood Products

Sample Descript: Analysis Method: Method Blank

Sample Number:

EPA 8260 BLK051095 Analyzed:

May 10, 1995

Reported:

May 23, 1995

VOLATILE ORGANIC COMPOUNDS

Analyte	Reporting Limit µg/L (ppb)		Sample Result µg/L (ppb)				
Naphthalene	1.0		N.D.				
n-Propylbenzene	1.0	•••••	N.D.				
Styrene	1.0		N.D.				
1,1,1,2-Tetrachloroethane	1.0		N.D.				
1,1,2,2-Tetrachloroethane	1.0		N.D.				
etrachloroethene	1.0		N.D.				
Toluene	1.0		N.Ď.				
1,2,3-Trichlorobenzene	1.0		N.D.				
1,2,4-Trichlorobenzene	1.0		N.D.				
1,1,1-Trichloroethane	1.0		N.D.				
1,1,2-Trichloroethane	1.0		N.Ď.				
Trichloroethene	1.0		N.D.				
Trichlorofluoromethane	1.0		N.D.				
1,2,3-Trichloropropane	1.0		N.D.				
1,2,4-Trimethylbenzene	1.0		N.D.				
1,3,5-Trimethylbenzene	1.0	***************************************	N.D.				
Vinyl chloride	1.0		N.Ō.				
o-Xylene	1.0		N.D.				
m.p-Xvlene	1.0		N.D.				

Surrogate Standards Percent Recovery:		Control Limits
1,2-Dichlöröethane-d4	120, S-4	76-114
Toluene-d8	99	88-110
4-Bromofluorobenzene	111	. 86-115

Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL Inc. Please Note:

Please Note

S-4 = The Surrogate Recovery for 1,2-Dichloroethane-d4 is outside of method established control limits.

Jama Dutton

Laura Dutton

Project Manager

Page 2 of 2

B505144.LAN <32>



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Landau Associates 23107 100th Avenue W. Edmonds, WA 98020 Attention: Tim Huntting

Client Project ID: Winlock Wood Products

Sample Matrix: Water

Analysis Method: EPA 8260

Units: µg/L (ppb) QC Sample #: B505173-01 Analyst:

R. Lister

Analyzed:

May 10, 1995

Reported: May 23, 1995

MATRIX SPIKE QUALITY CONTROL DATA REPORT

ANALYTE				<u></u> <u></u>	Chloro-		
MALTIC	1,1-DCE	Benzene	TCE	Toluene	benzene		
		_					
Sample Result:	N.D.	N.D.	N.D.	N.D.	N.D.		
Spike Conc. Added:	10.0	10.0	10.0	10.0	10.0		
Spike Result:	11.6	9.8	9.2	9.2	9.6		
Spike % Recovery:	116%	98%	92%	92%	96%		
Spike Dup. Result:	11.7	9.9	9.6	9.6	9.8		
Spike Duplicate % Recovery:	117%	99%	96%	96%	98%		
Upper Control Limit %:	140	125	114	117	112		
Lower Control Limit %:	30	76	79	89	91		•
Relative % Difference:	<1.0%	1.0%	4.3%	4.3%	2.1%		
Maximum RPD:	10	10	10	. 10	10		
NORTH CREEK AN	ALYTICAL Inc.	% Recovery:	Spike	Result - Sampl	x 100		
Jama Dutter	J			Spike Conc. A	ded		
, 5555	-	Relative % Difference:	Spike	Result - Spike D	up. Result	x 100	

Laura Dutton Project Manager

Spike Result - Spike Dup. Result (Spike Result + Spike Dup. Result) / 2

LANDAU ASSOCIATES, INC.
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EAX (206)778-6409

Chain-of-Custody Record

3070 Nº

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Project WIN LOCK Client SAME	1001			/		**************************************	/ §	Faramete		Turnaround Time			
Project Location WIND		, WA						/ 4		7/		///	☐ Standard ☐ Accelerated
Sampler's NameM	HUN	MING						# 3° /		/3	9//		TURNAROUND - 10 DAYS
Sample Number	Date	Time	Matrix	No. of Containers			7 3		S/W/S	<u> </u>	//	/ t	Observations/Comments
TP-1A-)	512 95	1150	SOIL	2	Х				<u> </u>			Repo	
TP-2A-1		1220		2	X				X		!	Tin	Heinthing Of
TP-3A-1		1245		2	X			1	X				3 07
-19-4A-1		1310		2	X				7	_			04
TP-5A-1		1405		Z	X			_	Х			، الجز	groundwater metal OS
TP-10A-1		1435		<u>Z</u>	X				<u>_</u> X			samo	les were field filtere
TP-7A-1		1500		12	V				X				
79-8A-1	<u> </u>	1530		2	×	X	X		2	\			υÝ
TP-8A-2		1600		1	×	X	X			(
TP-84-3		1615		2	X				X				10
TP-9A-1		1635		2	X				X				
TP-9A-2		1640		1	×								(2)
TP-10A-1	<u> </u>	1700		2_	X				Ý	<u> </u>	ļ		
TP-12A-1		1730		2	X	X	X		_ X	> —			14
TP-13A-1		1800		12	X				/2				()
01A-MWZ-0.2	1	1147	4	<u> </u>									(b
Special Shipment/Handlir or Storage Requirements												Method Shipme	- - -
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Christine K		Signature							Signature				
Printed Name			Pr	inted Nam	16				Printed Name				
Company ASS	Company Associates Company												Company
Date <u>5/5/9</u> 5 Tim	ne <u>121</u>	5 Dat	. <u>5/5/9/</u>	7 Time 12	2/5	_	Da	ite		т	ime		DateTime

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Chain-of-Custody Record

Νº

3071

Date ______ of ______

Project Name Chris Kurmel Ken Chaput Sample Number Date Time Matrix Containers Testing Parameters Turnaround Time Standard Chris Kurmel Ken Chaput No. of Sample Number Date Time Matrix Containers Testing Parameters Turnaround Time Accelerated TURNAROUND = ICDAY Observations/Comments																				
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